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THE RAILWAY GAZETTE
33, TOTHILL STREET, WESTMINSTER, S.W.1.

Trade Union Approach to Reality

THERE are increasing signs, none the less welcome because so long delayed, that Socialist leaders within and out of the Government are becoming seized with the seriousness of the position which faces the country. Unfortunately, there is little evidence as yet of any determination to grapple with the situation which is recognised to be developing, and the solution of which must entail some abandonment of political theory. Mr. Arthur Deakin, General Secretary of the Transport & General Workers' Union, at the annual conference at Hastings this week, introduced a resolution which recognised that Great Britain faced a grave economic crisis, and hinted that to deal with it, it might be necessary to reintroduce direction of labour. To achieve full production might require the removal of some of the restrictive practices the unions had found necessary for so long. One of these in particular was payment by results. This outspoken recognition of the needs of the times marks a considerable step towards facing reality, and should encourage the Government to show some courage and leadership in its dealings with the most politically powerful sections of its supporters. The widening appreciation that socialistic measures so far have not achieved the results expected has been emphasised by Lord Hyndley's warning to the miners that the coal industry is failing to justify the five-day week as a reasonable reform in existing circumstances, and by Mr. Herbert Morrison's grave statement recently in the House of Commons that the gap in our balance of payments is far too wide to be closed by any increase in production and exports expected in the early future.

* * * *

Mr. Ion Buchanan Pritchard

In our last week's issue we recorded briefly the death of Mr. I. Buchanan Pritchard, who in 1929 succeeded Sir Francis Dunnell as Chief Legal Adviser to the London & North Eastern Railway Company, and from 1941 acted also in a similar capacity for the Great Western Railway Company. For reasons of health, Mr. Pritchard resigned these offices in 1942, but was appointed Legal Adviser to the Railway Companies Association. That exceptional arrangement was made with the object of preserving continuity in settling a number of questions of first rate importance to the railways. His retirement from the special post in 1945 terminated a long period of useful work in the realm of railway law. In particular, he was responsible for adjusting the terms of the Control Agreement with the Treasury Solicitor in May, 1942. From such activities Mr. Pritchard withdrew to the peaceful countryside of East Anglia, where his friends hoped that he would enjoy many years of leisure among the books which he treasured. For he was a great reader and a keen collector of books, being proud of a number of first editions of his favourite authors. His death, at the age of 66, will cause widespread regret. Some biographical details, together with a reproduction of a photograph, are given elsewhere in this issue.

* * * *

Argentine Railways and British Personnel

Because of the impending transfer of the British-owned Argentine Railways to the State, there has been some doubt as to the future recruitment of British personnel for the lines. It is more encouraging, therefore, to record that at the present time, as will be seen from our official notices on page 83, that staff are being sought for the signalling department of an important railway system in Argentina. It is more than likely that, as the State exercises its control of the lines, tendency will be to fill vacancies as they arise from Argentine sources. On the other hand, for some time at least, it is possible that adequate numbers of skilled railway engineers in several branches of railway work may not be forthcoming locally. From the point of view of the quite legitimate nationalistic aspirations of Argentina, no doubt that will be deemed a defect to be remedied, and the necessary steps will be taken. Training, however, necessarily will take some time, and in view of the long and close associations with Great Britain it is reasonable to suppose that for a while opportunities may occur from time to time for British railwaymen to undertake service in that country.

Argentina in Market for British Railway Supplies

The State Railway Department of the Buenos Aires Ministry of Public Works has invited tenders for a number of important orders, the principal of which comprise 15 Santa Fe type locomotives and 320 coaches and luggage vans. Other items for which British manufacturers are invited to tender include the supply of radio telephonic equipment for maintaining contact between locomotives, guards' vans, signal boxes, and stations. Some details of the requirements of the State Railways are given elsewhere in this issue. There is no doubt that because of the long and friendly associations which have existed between British railway equipment manufacturers and the railways in Argentina, every effort will be made, despite the present difficulties of supply, to put in satisfactory tenders. The potential value of the Argentine State railway system, soon to be augmented by the transfer of the British-built and operated lines, is fully appreciated in this country, as is also the need to develop British exports to Argentina, which has to offer a very wide and valuable range of primary products of which this country stands in need.

* * * *

New Headquarters for Institute of Transport

The need for a suitable headquarters of its own has long been felt by the Institute of Transport, and for some time endeavours have been made, first, to raise the necessary funds to acquire a building, and, secondly, to find premises. When Mr. R. Stuart Pilcher, President of the Institute, addressed a luncheon to the Press last week, he was able to tell them that the ambitions of the Institute in this direction were nearing fruition. Of the £100,000 which had been sought, some £60,000 has been received already, and it is understood that in the very near future the Institute will be in a position to announce the completion of the purchase of its headquarters, and that it will not be long before they are ready for occupation. There is no doubt that the acquisition of its own headquarters will be of great advantage to the Institute, and will add considerably to the amenities available to its members. For many years it has enjoyed the hospitality of the Institute of Electrical Engineers for its meetings and such-like functions, but the lack of a club room and similar facilities has been a drawback, the removal of which will be gratifying to members of the Institute, who now number some 7,500.

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Rolling Stock for London Transport

When *Pennyfare* gave place to the *London Transport Magazine*, the new publication announced that articles on technical developments of interest to the staff as a whole would be part of its policy. Rolling stock and its maintenance is a subject in this category, and is dealt with in the July issue by Mr. W. S. Graff-Baker, Chief Mechanical Engineer (Railways). After recording orders placed before and since the war for new surface line stock, embodying features first incorporated in the tube cars of 1938, Mr. Graff-Baker deals with the improvement of overhaul depots. He shows that a study of existing buildings and layouts reveals how technique has advanced through the years, leading towards the new establishments which will come into use in due course, at Aldenham, Ruislip, and Hainault. Vehicles go to Acton for overhaul every 3½ years. The Acton central overhaul shops are undergoing extensions, which were begun in 1937, to deal with the work for a fleet of 5,000 cars. Mr. Graff-Baker suggests that an increase in the board's fleet above this figure probably would involve a new central overhaul depot elsewhere.

* * * *

Praise for London Transport Coach Design

Since the new London Transport experimental coach, No. 20000, was placed in service last month, many passengers have accepted the Board's invitation to submit comments on the design. The coach, illustrated and described elsewhere in this issue, aims at striking a balance between the requirements of station-to-station travellers in the City, and those making longer journeys to and from suburban stations on the Amersham line. Several of the Board's correspondents ask for still more provision for standing passengers, both by increasing the number of handholds and having larger vestibules. Another suggestion is that, instead of two sets of double-doors on each side of the coach, there should be four evenly-spaced single doors. It will be recalled that the new Southern Railway four-coach sets, described in our June 13 issue, provide the same number of doors in the open as in the compartment coaches; but from the point of view of London Transport a limiting factor is imposed by the policy of automatic door operation. Much appreciation has been expressed of the effectiveness of the air circulators in the new London Transport coach.

* * * *

The "Falaise"—Southern Railway All-Purpose Vessel

The *Falaise*, which re-opened the Southampton-St. Malo service of the Southern Railway on Monday, is the first post-war vessel to be delivered to the company, although the *Invicta* was, to all intents and purposes, a new ship, as she went into Government service on completion and was put on the "Golden Arrow" service between Dover and Calais only last October. Like the *Invicta*, the *Falaise* has rather more beam than the earlier ships, and this has enabled the designers to add an extra deck with all the amenities this affords. For example, it is possible on these upper decks to give more spacious lounges, and in the arrangement of these the third class passengers are treated liberally. Unlike the general run of cross-channel vessels which are built for specified terminals, the *Falaise* is an "all purposes" cross-channel ship. She is the first of its kind to be built for the diverse routes and requirements of the Southern Railway, and, indeed, will be put on the Channel Isles service on Fridays and Saturdays. Later, she is likely to go for a time on the "Golden Arrow" route. She has an automatic stabiliser and can sleep 2½ times as many passengers in private cabins as the *Isle of Sark*, which was the last ship built for the Southampton station.

* * * *

The British 113-lb. Rail

British railway engineers, keeping in touch with progress throughout the world, noticed that track on U.S.A. railways had stood up to traffic with minimum maintenance through the severe financial depression through the middle '30s in the U.S.A., and it was considered that a test should be made in this country of American flat-bottom track to see if it required less maintenance than the standard bull-head. The first tests were made on the L.M.S.R. in 1936, and much information has been secured during the past decade as to the behaviour of F.B. track under British traffic, climatic, and other conditions. Originally, the 110-lb. British Standard F.B. rail was used. Subsequently, the 131-lb. A.R.E.A. rail was tried. Both have the same width of bottom flange, and various combinations of baseplate and fastenings were tried. Flat-bottom road generally has proved satisfactory, and requires less maintenance than bull-head, but L.M.S.R. experience led to the view that a redesigned rail section was necessary if full economies were to be obtained, as it was appreciated that the 110-lb. B.S. rail had been designed primarily for securing direct to wood sleepers. This week we publish the first of a series of articles on L.M.S.R. permanent way developments, outlining experiences with F.B. rail, and reproducing, for the first time, a section of the 113-lb. rail, which has now been adopted by three of the four British main-line railways.

* * * *

New Device to Improve Coal Combustion

A report presented on April 29 by the motive-power committee of the American organisation, Bituminous Coal Research Inc., at Battelle Memorial Institute, Columbus, Ohio, makes reference to a new device termed an "undergrate air distributor," the object of which is to secure more complete combustion by better distribution of the air admitted below the grate. The inventor is Mr. Vaughan Mansfield, the Chief Engineer of the Southern Coal Company, Memphis, Tennessee, who subsequently developed the distributor in conjunction with Bituminous Coal Research. By ensuring a uniform flow of air to the fire, undue losses caused by the expulsion of unburnt fuel from the chimney are avoided, and better use is made of the coal. Savings of from 7 to 15 per cent. in fuel consumption (depending on the speed) have been reported in the course of tests in actual running. It is also claimed that the formation of clinker on the firebars is reduced, an advantage which not only makes for savings in maintenance costs, but also

enables a higher availability to be achieved. Incidentally, the availability—and hence, naturally, the mileage run—by some modern American engines has reached a very high level. Six coal-fired New York Central class "S" 4-8-4s working between Harmon and Chicago (926 miles) averaged almost 22,000 miles a month during the six months from October 1, 1946, to March 31, 1947, and in individual cases the monthly mileage exceeded 28,000. Mechanically cleaned egg-size coals were burned, and the locomotives were refuelled twice en route.

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N.U.R. Criticism of Railways

ANNUAL conferences proverbially provide opportunities for letting off steam, and the N.U.R. conference held at Ayr last week was no exception. A resolution was passed calling on the Government resolutely to oppose "the wrecking amendments to the Transport Bill proposed by the House of Lords," and the seconder of this resolution expressed the view that opponents to the Bill represented "a diabolical trinity of deceit, robbery, and treachery"! Yet there can be no argument that many of the amendments made to the Bill by the House of Lords have been designed solely to clarify its intentions, and, in fact, have been accepted by the Government in that spirit. Moreover, the Lords have secured the insertion by the Government of several most important amendments relating to the compensation to be paid to those members of the railway staff who suffer loss of employment or loss or diminution of remuneration or pension rights, or whose position is worsened in consequence of the transfer of the railways to the British Transport Commission.

We do not think it at all probable that the House of Commons will reject these amendments, and railway staff generally may well have cause to thank the House of Lords for its interest in the future of railway staff. Had the Lords been actuated solely by political motives, obviously they could have acted in an entirely different way. The mover of this resolution then indulged in a burst of criticism of the British railways, repeating charges made and refuted on many previous occasions. He argued that British transport was much dearer than that of other European countries, and that fares and freight charges were in some cases five times those in the United States. He complained that there was a multiplicity of different charges and rates, and that the average speed of passenger trains was about 15 miles an hour, and of freight trains, 9 miles an hour.

Further, he criticised what he called the "skinflint" policy of the companies in providing only the bare minimum of replacements and repair for locomotives, carriages, and wagons, and said that the shortage of locomotives was now so acute that the companies needed 2,800 over the next five years. He complained that the wagon situation was just as bad, and that of the 611,240 privately-owned wagons in this country, many were over 35 years old and most were defective.

Such sweeping statements, possibly culled from a recent Labour pamphlet—although doubtless well received by the conference—betray the speaker's complete ignorance of the subject. As has been pointed out on many previous occasions, the point is that freight charges per ton are lower, in fact, in Great Britain than in most other countries, but per mile they are higher because of the incidence of the charges for terminal services, which is naturally greater when the length of haul is shorter. Again, the bulk of general merchandise conveyed in Great Britain is in consignments of 4 to 5 cwt., over comparatively short distances, which bears no comparison with the size of the consignments and distance they are carried in other countries. Also, it must not be overlooked that the cost of constructing, maintaining, and operating the lines abroad are very much less than in this country, and this obviously has an important bearing on the level of charges.

As to the complaint of the multiplicity of rates, we shall await with interest the publication of the very small pocket book of rates and charges which Lord Walkden told the House of Lords would be prepared by the British Transport Commission to simplify the existing schedules. Simplification of the existing rates structure necessarily will involve many increases in rates, as well as reductions, if the Commission is to meet its obligations to secure sufficient revenue to meet its costs. We suggest that, on this point as on many others, the ardent supporters of nationalisation will be sadly disillusioned.

His remarks about the average speed of passenger and freight trains are quite untrue and show how ill-informed is the speaker. There are no official statistics of the average speed of trains. The figures he quotes are taken from the Ministry of Transport statistics, and are train-miles per train-hour, which is a totally different figure. For example, it covers all the time during which an engine is attached to a passenger (or a parcels) train, and, therefore, includes the time spent at the departure station from the time the engine is attached to the time the engine is detached from the train, as well as all the time the train is standing at stations, or at signals, etc., en route. As such a large proportion of the railways' passenger traffic is suburban, necessitating a large number of stops, it should be clear to anyone, except an ardent nationaliser, that the division of train-hours into train-miles must give a completely inaccurate picture of the actual running speed of the trains.

His remarks as to the "skinflint" policy of the railways in providing only the minimum replacements and repairs of locomotives, carriages, and wagons are a complete travesty of the facts. Leading officials of the N.U.R. at least should know that there are over £150 millions in the deferred maintenance funds set up under the railway control agreement, and that, despite the repeated representations made by the railways, the Government Departments concerned have been unable to arrange for the railways to be supplied with the essential materials, and in some cases labour, required to enable them to reach their normal production of rolling stock or reduce the excessive percentage now under and awaiting repair to anything like the pre-war figure. The figure quoted of the number of privately-owned wagons in the country is also incorrect, and, while we should like to know what foundation the speaker had for the statement that most of these are defective, the condition of the wagons obviously is a matter for the Minister of Transport who requisitioned them—or for the owners—and certainly not the railway companies.

In conclusion, we may add that, assuming the Transport Bill becomes law and the British Transport Commission commences operations in January next, not the least of its difficulties, and they will be many, will be occasioned by the impracticability of achieving many of the extravagant anticipations of those who support the nationalisation of transport for political reasons. We imagine it will be of considerable interest in, say, two years time, to contrast these sweeping, and in many cases, ridiculous claims, with what then has actually been accomplished.

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Argentine Railways Sale Details

THE British-Argentine Railway companies have now issued details of the scheme of arrangement which has to be approved by the stockholders and the Court before the *ad referendum* sale of the railways to the Argentine State can be concluded. It will be recalled that at the end of May the British-Argentine Railway Council issued a statement and table, which had been approved by a panel of experts, setting out the allocation among holders of the different classes of loan and share capital of the proceeds of the sale. This statement and table were given in full in our June 6 issue.

The circulars now issued to stockholders recapitulate the difficulties with which the British railways in Argentina had to contend for many years before the decision was taken to dispose of the undertakings. It is recalled that in 1943, in view of the prospective expiry at the end of 1946 of the Mitre Law, Sir Montague Eddy, Lord Forres, and Mr. H. C. Drayton visited Buenos Aires with the object of negotiating a revised basis for the operation of the railways after 1946. It was not possible to arrive at any mutually satisfactory agreement, and at the end of 1946, when the British Government sent a mission to Argentina with the object of settling various economic questions between the two countries, including the future of the British-Argentine railways, Sir Montague Eddy and Mr. B. H. Binder accompanied the mission on behalf of the railways. An agreement between the Governments was signed in Buenos Aires on September 17, 1946, and among its provisions was one for the formation of an Argentine company to acquire and operate the British-owned railways.

In October, 1946, a further delegation, consisting of Sir Montague Eddy, Lord Forres, and Mr. H. C. Drayton, visited Buenos Aires on behalf of all the railway companies to negotiate with the Argentine Government the initial capital and constitution of the new Argentine company and similar questions. During the course of these negotiations it became evident that an outright sale for cash would be in the best interests of all concerned. The delegation, therefore, with the authority of the boards of the various companies, negotiated on that footing, and, after protracted discussions, ultimately accepted the final offer of the Argentine Government. An agreement was accordingly signed at Buenos Aires on February 13, 1947, for the sale to the Argentine Government for cash of the whole of the companies' undertakings and assets in Argentina.

The consideration payable by the Argentine Government for the undertakings of the railways proper (including stores) was agreed at £135,500,000; shares or assets of certain ancillary and auxiliary undertakings are to be included for an additional sum of £14,500,000, making a total of £150,000,000 in all. The sale is to take effect from July 1, 1946, and the operation of the railways from that date is to be for the account of the Argentine Government. After the ratification of the sale, the companies are to receive as from July 1, 1946, and until the purchase price is paid, interest at the rate of ½ per cent. per annum on the total purchase price.

The Argentine Government has undertaken to make the purchase price available in sterling at the Bank of England within 30 days of the ratification in Buenos Aires, which, it is understood, will follow on the sanction of the scheme by the High Court. The scheme which is now placed before the stockholders covers, as one inter-connected whole, the distribution of the proceeds of sale amongst the holders of the several classes of loan and share capital of all the companies concerned. All parts of the scheme are inter-dependent, and rejection by any one class of stockholder necessarily must involve rejection of the whole scheme.

Of the purchase price of £135,500,000 for the railways proper, £8,567,935 represents the agreed value of stores included therein. This sum has been divided between the six groups of railways on the basis of a detailed valuation, and the balance of £126,932,065 has been divided in accordance with a Partition Agreement which was signed in England on July 12, 1946, between the companies before the recent negotiations were begun in Buenos Aires. Under this agreement the companies were treated as divided into six groups, and agreed that in the event of a sale taking place to propound schemes of arrangement on the footing that the proceeds of the sale of the railways proper, should be divided amongst the groups on the basis of the companies' respective capital expenditure recognised by the Argentine Government, or expected to be so recognised. Details of the allocation of the sums which will become available to the various companies' different classes of stock were set out in our June 6 issue on page 598.

Provision is made in the scheme for various payments to be made in respect to pensions, and compensation to staffs of the railways, for compensation to directors holding substantially whole-time salaried appointments, and also for compensation to other directors for loss of office. Many of the staffs of the companies, it is pointed out, have spent the whole or substantially the whole of their business lives in the service of the railways either in Argentina or in this country. In the past, when senior employees with long service have retired, the companies have paid pensions based on the length of service to them and their dependents; these pensions in the case of employees in Argentina being to supplement the limited pensions they receive under the Argentine State Pension Scheme.

Although in most cases there is no legal claim to continuance of such pensions, the directors feel that any failure to recognise the moral claims of such ex-employees and their dependents would be a breach of faith. Some of them have given long service to their companies in various capacities; in the case of employees in this country, the sale of the railways will lead to the termination of their services, and it is proposed to make payments to them of varying amounts, the aggregates of which are set out on page 79.

The section of the scheme relating to the various companies sets out in considerable detail the amounts which the directors will receive, not only from the particular company involved, but also from any other company with which they may be associated, and, furthermore, holdings of the directors and holdings by outside companies of which the directors of the British companies also are directors are given. In some quarters there has been some criticism of the amounts which it is proposed should be paid to some of the directors. Perhaps it is not fully realised that in many cases these directors have devoted their lifetime to the furtherance of the interests of the British-Argentine railways; and that the present arrangement with the Argentine Government, which, particularly in comparison with the terms which are being accorded British railway stockholders by their own Government, cannot be considered unsatisfactory, is the fruit of long, complex, and arduous negotiations by some of the recognised leaders of the British-Argentine railway boards.

* * * *

Report Stage of the Transport Bill

THE Report stage of the Transport Bill occupied two days in the House of Lords last week, and, after the Third Reading this week, the Bill will be sent back to the House of Commons to consider the numerous amendments which have been inserted. Although the Report stage was noteworthy principally for the number of amendments inserted by the Government in compliance with undertakings given during the Committee stage that it would endeavour to meet a large number of the criticisms raised, two further amendments were moved against the Government, making twelve in all during the Committee and Report stages of the Bill.

The first of these provided for the establishment of a Scottish Transport Executive, after spirited objections by Government spokesmen; the second series of amendments forced through by the Opposition provided that the person to be appointed to conduct public inquiries into schemes for road passenger transport and harbours sponsored by the British Transport Commission should be an independent person and not "a servant or officer of the Minister." The amendments also provided that the report of the findings, conclusions, and recommendations of the person holding the inquiry should be published and made available to the public, and were passed despite strenuous opposition by Government speakers.

Among the amendments proposed by the Government to meet Opposition criticism were those designed to secure the publication of the salaries or fees and allowances of members of the Commission; modifications of the powers of that body in regard to the storage of goods; the conveyance of passengers by road; the insertion of powers to enable it to provide houses, hostels, and other accommodation for staff, and to make housing loans to the staff. A series of amendments was agreed drafted to meet the representations of the Opposition that the powers of the Commission and the concerns it takes over to manufacture chassis or bodies for road vehicles should be severely restricted in the national interest.

Chassis construction will now be limited, except for purposes of experiment or research, to a number not greatly in excess of the aggregate number manufactured annually by the acquired undertakings in any one of the last three years before the undertakings are acquired. Body construction will be limited to one-fifth of the number required annually by the Commission, with the addition of a certain number of bus bodies authorised to be manufactured under the L.P.T.B. Act, 1933.

One of these amendments also bars the Commission from purchasing vehicles for re-sale, or from trading in spare parts or accessories, or in petrol or oil for road vehicles, except to carry on for an interim period facilities already existing in acquired undertakings, provided that such activities are not carried on for longer than three years. A Government amendment was agreed providing for the re-insertion of the words "Docks and" which were mistakenly deleted from the title "Docks and Inland Waterways Executive" during the Committee stage.

A Government amendment also was agreed to meet Opposition suggestions that the Commission should be given the option of not taking over certain concerns which it considers should not be acquired. An amendment moved by Lord Simon

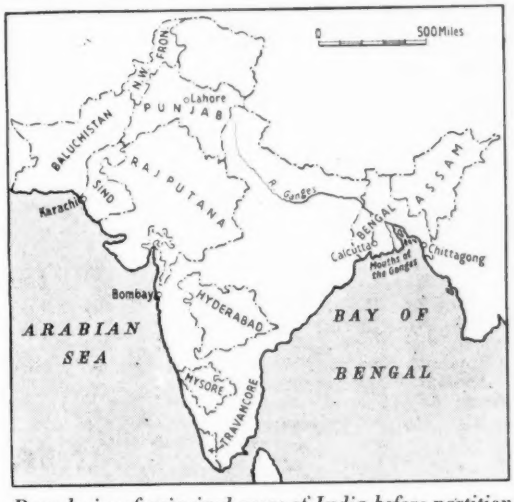
providing for an arbitration tribunal to be set up to hear appeals on pensions and compensation rights of employees adversely affected by the change of ownership was first rejected by the Government spokesman on the ground that the railway trade unions were satisfied with the existing provisions, but, subsequently, Lord Addison intimated that he and the Minister of Transport (who was present during this stage of the debate) were greatly impressed by the case made out, and the Government, therefore, would accept the amendment on the understanding that any modifications found necessary might be made.

Another amendment, moved by Lord Balfour of Burleigh, was accepted, providing that no regulations concerning compensation to employees should be made unless the Minister's draft proposals were approved by Parliament.

* * * *

Whither Indian Railways?

FOR some years past we have emphasised the fact that Indian railways serve a sub-continent rather than a homogeneous country, and, more recently, that—contrary to popular opinion at the time—Pakistan was no mere slogan but a very real future possibility. These assertions now have been fully corroborated by contemporary events, and we already know that within the next few weeks there will be two self-governing Dominions in the peninsula, Hindu India and Moslem Pakistan, as well as some independent Indian States. It is not yet clear whether each Dominion will have sole control over the railways within its borders, or whether some system of joint control over all Indian lines may be devised and agreed. As a temporary measure, to tide over necessary



Boundaries of principal areas of India before partition

changes at least, some such joint arrangement is likely to be made, but from our Indian correspondent's letter on page 64 in this issue, it would seem probable that eventually there will be separate Dominion control.

If this surmise is correct, parts of two existing railway systems will suffice to serve the whole of both Western and Eastern Pakistan respectively, whereas all the other lines except the Nizam's and a short branch in Travancore State will be in Hindu India, as we may term the future Indian Dominion to avoid confusion with the existing India. Western Pakistan, which is to comprise Sind, Baluchistan, the western and northern districts of the Punjab, and, almost certainly, the North West Frontier Province also, will contain the bulk of the 7,000 route-mile North Western Railway, including the lines to the north, north-west, west, and south-west of Lahore embodied in the Rawalpindi, Multan, Quetta, and Karachi Divisions, and part of the Lahore Division. The remaining lines to the south-east of Lahore, towards Delhi, probably will fall in Hindu Indian territory (until such time as the boundary commission decides where the borders shall be, this must be surmise).

A thousand miles farther east, Eastern Pakistan, consisting of the 16 eastern and northern districts of Bengal, and the Sylhet district of Assam, will be served by the metre-gauge system of the Bengal-Assam Railway, less the lines in the remainder of Assam, together with most of the Calcutta-Siliguri (for Darjeeling) broad-gauge main line and its branches, so far as one can foresee.

With regard to headquarters administration, ports, and export traffic prospects, Western Pakistan—as we must call it until another name is announced—will have Karachi (population about 360,000) as the Dominion capital city and port. Lahore, now reported to have a population of over 670,000, is the most important junction in this future Dominion and is the headquarters of the North Western Railway at present. Having ample railway buildings and large workshops, it may well be chosen as the administrative centre of what may be termed the Western Pakistan Railway. Eastern Pakistan will have Chittagong as its port, and, as this was the headquarters of the former Assam-Bengal Railway—now incorporated in the larger Bengal Assam system—the administration of the lines serving Eastern Pakistan is likely to be established there also.

On the other hand, the new Hindu India will possess well over 30,000 route-miles of railway, which, presumably, will be operated as a Dominion government system almost as formidable as the existing Indian Government Railways. Moreover, it will possess all the coal, iron, and steel in the sub-continent, and doubtless in time will be self-supporting.

Eastern Pakistan will have to import coal from India or oil from Burma, or both; and Western Pakistan, being so far from the Indian coalfields, almost certainly will rely as far as possible on liquid fuels imported from Persia and Iraq, for which imports the port of Karachi is so conveniently situated. Hindu India will enjoy all the existing exports from Calcutta, Bombay, and many lesser ports, whereas Pakistan will export the bulk of the wheat leaving India, and some cotton and other crops *via* Karachi, as well as jute, rice, and tea *via* Chittagong. It may be remembered that Karachi ranks next to Calcutta and Bombay among the Indian ports today, and is modern and well equipped; both this port and Chittagong are capable of great development.

* * * *

Lancashire & Yorkshire Railway Centenary

THE name Lancashire & Yorkshire Railway Company came into existence on July 9, 1847, when Royal Assent was granted to a Bill presented by the Manchester & Leeds Railway for powers, *inter alia*, to alter the name of the company to a title "more expressive of the extent and importance of the system." Like many of the trunk railways, the Manchester & Leeds was the outcome of an 1825 proposal, which in this case consisted of a number of schemes which, together, were to link the Mersey with the Humber. Only the Manchester & Liverpool Railway part, however, was proceeded with then. The Leeds & Selby Railway was authorised a few years later, and in the boom years of railway promotion, 1836 and 1837, the Manchester & Leeds, and Hull & Selby Railway Acts provided the missing links.

As the North Midland line was to pass through Normanton on its way from Derby to Leeds, and as the York & North Midland line was to stretch from Normanton to York with a junction to the Leeds & Selby, the Manchester & Leeds Company decided that its line should run from Manchester to Normanton, and an easy-graded but circuitous line between those points was adopted.

The company joined the Liverpool & Manchester in 1839 in planning a line to link their two railways in Manchester (Hunts Bank Station, now Victoria Station, was at the end-on junction of this connecting line). Feeder branches were authorised to Heywood, Oldham, and Halifax in the same year. The main line was completed in 1841, and, thus, the company had had some time to settle down when the railway mania commenced in 1844. Great extensions, made by amalgamation and promotion of new lines during the formative years, 1844-46, brought into the company's system: Liverpool, Southport, Preston, Blackpool, Bolton, Burnley, Bradford, Huddersfield, Barnsley, Pontefract, and Goole. There was, therefore, a strong case for altering the name of the company, and, in view of the new titles taken by the undertakings forming the Midland (1844) and London & North Western (1846),

it is not surprising that the Manchester & Leeds took steps to rename itself.

Before 1860 the L. & Y. had increased its hold on Lancashire traffic by absorbing the Blackburn Company (Bolton to Clitheroe) and the East Lancashire Company (Liverpool-Preston-Blackburn-Accrington-Burnley, and Clifton Junction-Accrington). Towards the end of the last century the L. & Y. took its place amongst the main-line companies of this country when inter-county express services were instituted, and the company developed a forward policy. The L. & Y. was probably the first railway in this country fully to equip its line with telephone circuits, and it kept up to date in the adoption of signalling developments.

Its Liverpool-Southport line electrification (brought into operation in 1904) was the first main-line electrification in this country. The splendid performance of the Horwich-built locomotives of Aspinall and Hughes (many of which are still in service) with heavy loads over the stiff gradients on many of the L. & Y. main routes needs no emphasis. A notable feature of the L. & Y. board was its willingness to increase traffic facilities, and in the matters of line capacity and station and marshalling yard accommodation it was probably better equipped than most railways. Its centralised Control Office, opened in 1915 in Manchester, was a model of its kind, and was visited by railwaymen from many parts of the world. Included in the L.M.S.R. group in the Railways Act of 1921, the L. & Y. was amalgamated with the L.N.W.R. (in a voluntary scheme) as from January 1, 1922.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

"A Framed Waggon-Way"

The Railway Club, 57, Fetter Lane,
London, E.C.4. June 23

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In Senhouse *v.* Christian and others (1787), reported in 1 Term Reports 560 (reprinted in English Reports, Vol. 99, at page 1251), it was decided that "under the grant of a free and convenient way for the purposes of carrying coals amongst other articles the grantee has a right to lay a framed waggon-way."

During the course of the case, "Mr. Law explained a framed waggon-way to be formed by laying pieces of wood along the road on each side, at the distance of the wheels of the carriage, which were joined and kept fast together by bars at equal distances, the interstices being filled in with sand and gravel so as to render the surface flat. They are now used for carrying the coals from most of the collieries in the north of England."

The wagon-way in question is referred to briefly in Dendy Marshall's "British Railways down to 1830" (at page 33) as running for a distance of 2½ miles from Broughton Colliery to the "Arches" near the present Maryport railway station, whence the coal was carted to the harbour.

The report shows that the way-leave in dispute in the case was granted by indenture dated May 18, 1722, and that "a framed waggon-way" was first made over the land in question by the Broughton Colliery Company in the year 1755. Further, that "before the laying of any framed waggon-way certain brick arches of the height of 18 feet and of the breadth of 24 feet were erected . . . in order to lay a framed waggon-way over the same."

Yours faithfully,
KENNETH BROWN

Lightweight Traction Motors

London Midland & Scottish Railway,
Chief Mechanical Engineer's Office,
Nelson Street, Derby. July 8

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In your issue of June 6, Mr. R. Howard, in commenting on the description of Southern Railway lightweight traction motors in the May 23 issue, refers to the roller-bearing axleboxes on the L.M.S.R. Liverpool—Southport electric stock. Some further details may be of interest.

It is, perhaps, not clear from his letter that every motor coach axle on the Liverpool—Southport line and on the Wirral section is fitted with an earthing brush on the axle. The return circuit consists of a bare copper strip in electrical contact with the coach underframe, and terminating on the motor frames with an additional connection to the earthing brush. Tests show that very little current passes through the earthing brushes, but returns to the track by way of the suspension bearings. These are of the whitemetal type, and suffer no damage in the process.

Unfortunately the roller axleboxes have not been free from electrical pitting, and up to the present approximately 5 per cent. of the boxes installed have needed attention on this account. We have had no trouble with electrical pitting of roller armature bearings, though there have been signs of the passage of current.

With roller axleboxes, even with an insulated return as described by Mr. Charnley in your issue of June 13, there is a possibility of trouble due to earth faults on the equipment, or the arcing of a shoe to the bogie frame. The latter is apt to occur in the case of bad collection from an icy conductor rail. Most of the troubles on the Liverpool—Southport line are due to this. Without some additional precautions, a completely insulated return may increase the risk in the event of faults. Suitable shielding should eliminate, or at any rate reduce, the risk, but the insulation of the axlebox or the axlebox bearing would appear to be worth considering.

Yours faithfully,
F. A. HARPER

Basic English

70, Rowlands Avenue,
Hatch End, Middlesex. July 10

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—In the past, in dealing with overseas engineering matters, *The Railway Gazette* generally has been careful to translate the terminology of other countries into terms readily understood by the majority of British readers. It is a pity that no such care appears to have been taken in the article "Long Welded Rails in the U.S.A.," in your July 4 issue. In particular, the table of comparative figures has been copied from the American table, with no attempt to make it understandable. Such expressions as "angle-barred" might have been explained as meaning jointed track laid with angle fishplates; no explanation whatever is given of the cryptic reference "S.B.M.—11·2 miles welded 131 R.E." with a symbol resembling a sharp in a music score; nor of "N.B.M." in the preceding line; and it takes a certain amount of reasoning to come to the conclusion that the two bottom lines of the table represent ratios.

What would the average British permanent way engineer understand, also, by the expression "buckling rail"? Again, the average reader certainly would assume that "average annual tonnage" and "tonnage since laid" in the table referred to the weight of rails of each type laid in the track, and would marvel at this incredible track-laying activity; actually, of course, this means the gross tonnage of traffic which has passed over the test lengths—a rather different matter.

Lastly, why is it not possible to express curves and gradients in the terms customary in Great Britain—radius in chains for curves and not degrees of curvature; and gradients in the usual "1 in XX" fashion, and not in percentages?

Yours faithfully,
CECIL J. ALLEN

Inner Circle Service

12, Briar Road, Kenton, Harrow. July 2

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—As one of the unfortunates who travels daily, between Paddington and South Kensington, on London's "scrap heap," sometimes known as the Inner Circle, I would suggest seriously that adequate seating accommodation be provided on station platforms. Paddington would need about 150 places.

I understand that the official service interval is 7-8 min., but it varies from 2 min. to 30 min., generally nearer the latter figure—it was 28 min. this morning from the time I arrived on the westbound platform at 9.8 a.m.

Paddington westbound platform has an illuminated train destination indicator which, if illuminated with no train in sight, is invariably wrong, but 90 per cent. of the time it is switched on only just as the guard of a stationary train is about to signal his train away. With the exception of this brief appearance on the platform, no porter is ever seen, so it is obvious that something is wrong on the supervisory side.

What this nightmare line will be like when nationalised, Heaven only knows, but they may decide to close the Inner Circle between South Kensington and Aldgate, as it tends to cause congestion on the District, and would make things easier for the officials and staff.

Yours faithfully,
L. P. WALTER

The Scrap Heap

Error of Judgment

A woman passenger on a Southern Electric train from Waterloo to Camberley thought that the train was going in the wrong direction and pulled the communication cord between Putney and Barnes.

The train was held up for some minutes, while the guard explained to her that she was in the right train.—*From the "Star."*

* * *

G.W.R. Waste-Paper Drive

An extensive comb-out of waste paper and cardboard at thousands of stations, offices, and depots throughout its system has just been started by the G.W.R. All correspondence, documents, books, and files that can be dispensed with will be made available for pulping and as a raw material for important industrial processes. The total tonnage salvaged is expected to run into four figures.

* * *

100 YEARS AGO

From THE RAILWAY TIMES, July 17, 1847

On the 1st day of August will be published, No. I., price One Shilling, to be continued in monthly parts, with two illustrations,

HAVERSTOCK, the Promoter of the Great British Railway Company, A TALE OF THE MANIA OF 1845.

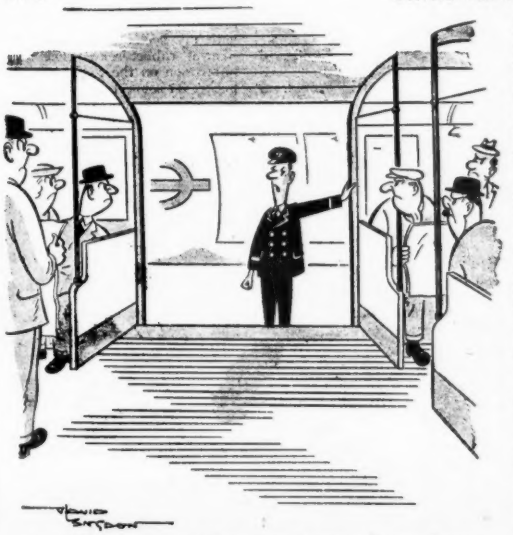
By Scrip. Showing how the Company originated—who got the premiums—and where the dividends went to; together with all the proceedings of the various ladies and gentlemen who had pickings therein. The whole compiled from the most authentic sources.

London: Sherwood and Co., Paternoster-row, and all Booksellers.

* * *

A 48-Year-Old Ticket

It is recorded in *Trains* that late in 1946 an elderly lady boarded a train of the New York, New Haven & Hartford Railroad at New Rochelle, and remarked to the conductor as she tendered her ticket, "I didn't buy this ticket today." Scrutiny confirmed the truth of her words; the pasteboard bore the date September, 1898! At this date there was no time limit to the use of tickets, and for this reason the conductor honoured this 48-year-old specimen for the journey of 16½ miles from New Rochelle to Grand Central Terminal, New York.



"All change and I'm very sorry—I am but a cog in the wheel"

(Reproduced by permission of the proprietors of "Punch")

The Usual Channels

The Minister of Works has rejected the idea of mooring disused warships in the Thames to provide office accommodation for Civil Servants because it would cause the channels to silt up, says a recent news item.

The establishment of Civil Service offices anywhere invariably causes extensive silting up, a business friend of mine says, and especially in the usual channels. —*"Northerner II" in the "Yorkshire Post."*

* * *

Not a Penny More

How many things in a world of soaring prices cost the same as they did pre-war?

You can buy a newspaper at the same price you paid in 1939. You can pull the communication cord of a train and the penalty is still only £5.

You can ride in a taxi at the pre-war rate of 9d. for the first two-thirds of a mile and 3d. for every one-third of a mile afterwards.

A railway platform ticket still costs a penny. To register a letter still costs threepence.

The poundage on money orders is unchanged. Local telephone calls are still 2d. Dog licences are still 7s. 6d.

And if you want to weigh yourself to see how much lighter you are through austerity feeding, you can still get the information for a penny.—*From "The Londoner's Diary" in "The Evening Standard."*

* * *

Familiar G.W.R. Figure Retires

No longer will the cry "Send for Hicks" be heard in railway marshalling yards and on show grounds, for Inspector Dick Hicks, 67-years-old G.W.R. inspector, has retired after 53 years' service with the company. For the greater part of his service he has been an advertising inspector, and his job has taken him to all the big agricultural shows, where he has arranged the decoration of railway showground offices and where his cheerful figure became familiar to all. One of his annual jobs in the days when petrol and paper were plentiful was to tour Scotland, Yorkshire, and Lancashire in a special G.W.R. bus distributing holiday literature advertising Devon and Cornish resorts. Other jobs were canvassing for "Holiday Haunts," the G.W.R. holiday guide, and inspecting the company's timetable sheets all over England.

During both the 1914-18 and 1939-45 wars, the G.W.R. Rolling Stock Department "sent for Hicks" and borrowed him for the duration. In the first war he was engaged on troop and munitions movements at Plymouth, and with rolling stock generally at Taunton and London; during the second, with rolling stock matters principally in the Worcester and Gloucester areas and the West of England. Inspector Hicks, who joined the G.W.R. in the Signal Engineer's Department, Reading, in the blacksmith's shop, is a native of Worcester, but has lived in London since he was a few weeks old.

Off the Rails

Going on holiday? Travelling by train? Preparing for the scrum? Looking forward to the long, stifling journey on your feet in a crowded corridor?

For comfort in the ordeal we recommend a few words from the *Daily Herald*. Praising the planning activities of the Government, that newspaper said: "It is a sensible system, and the only alternative to the chaos which existed before."

Sir and madam—do you remember that "chaos"? When you could get a seat in a train; buy anything you could afford without queueing; have the goods sent home; shop without coupons? . . . .

Now "chaos" has been abolished—and if you are going on holiday you can see the result on the railways. Under Government control trains are overcrowded, dirty, and late. The fares have gone up, and will go up again. And full nationalisation is still to come! . . . .

When the war ended the companies were ready with a £120,000,000 scheme of repair and modernisation, but they have never been able to get down to it. . . .

In 1938, when traffic was lighter all round, there were 4,000 more passenger coaches and 50,000 more goods wagons than in 1946, and since then the total of wagons has sunk by thousands.

No sensible person will blame the Government for world shortages and other factors beyond their control. But what about coal? What about the five-day week in the mines and the proposed 44-hour week on the railways?

The five-day week calls for more goods wagons at a time when there are fewer. Take, for example, a mine where ten wagons a day, or 60 a week, used to clear the output. To lift the same amount of coal in five days takes 12 wagons a day, which is still 60 a week.

But it may be ten days before these wagons can return to the pit for another load. That operation demands 120 wagons where 100 used to suffice—but those extra 20 do not exist.

Socialist planning, plus the five-day week, plus nationalisation, plus incompetence in high places, would have rocked prosperous pre-war Britain. These things together are almost a knockout blow today.—*From the "Daily Mail."*

* * *

Lines Upon Lines

This is the last summer holiday on which railway travellers will see the familiar railway companies' names.

My boyhood's tryst was with the Highland Line;
Cambrian, Caledonian were my flames,
Great North of Scotland was dear friend of mine;
When railways blazed their natures in their names.

Came narrower ways. Still Western thundered West
(But Scotland with the Midlands must be mated),
Southern danced south. North Eastern took the blest
Where Whitby's russet roofs and Goathland waited.

What next? A National Board, a dull dog's heaven,
Impersonal, anonymous, enorm?
For Perthshire, you? Base 2, Sub-Section Seven.
Queue at 3D, and fill the special form.

I. B.

From "The Observer."

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

INDIA

Railway Organisation in Pakistan

In view of the proposed formation of the Dominion of Pakistan, all employees of the North-Western Railway are being asked whether they would prefer to serve in Pakistan or the rest of India. It is understood that similar measures are being taken in the area which is to form Eastern Pakistan.

Out of the seven divisions of the North-Western Railway, it is expected that all except Delhi, Ferozepore, and part of the Lahore divisions will be included in Pakistan. The North-Western Railway therefore would be reduced to four and a half operating divisions, plus the Workshop Division at Lahore.

It is understood that the first batch of administrative personnel of the Pakistan Dominion will leave New Delhi for Karachi in August, and that 15 special trains have been reserved for this movement.

Partition of Indian Railways

Committees of experts and sub-committees have been meeting regularly since the middle of June to investigate problems arising from the division of the country into the Dominions of Pakistan and India. Expert Committee No. 2, dealing with the allocation of assets and liabilities between the two Dominions, has a Sub-Committee on Railways, which is composed as follows:—

Messrs. G. Faruque (General Manager, E.I.R.), Z. H. Khan (Director, Railway Board), K. C. Bakhle (officiating General Manager, B.B. & C.I.R.), V. P. Bhandarkar (formerly General Manager, Bengal Assam Railway), I. S. Puri (Financial Commissioner for Railways), and K. Obaidullah.

Recommendations on the division of assets will be made to the Partition Council, after which the Expert Committee will propose measures for implementing the transfers recommended.

There is also a Budget Committee, with a Departmental Sub-Committee dealing with railway, postal, and telegraph budgets. This sub-committee is making recommendations on budgetary and accounting arrangements for the current year; and on future adjustments between the two Governments in respect of traffic passing through both States, and of services rendered by one Government to the other.

General Managers' Conference

Dr. John Matthai, Transport Member of the Interim Government, recently convened a conference of the general managers of all Indian railways to meet in Bombay and review the overall transport position in the country.

Among the matters discussed at the conference was the growing incidence of crime on the railways. Precautionary measures endorsed included the posting of police and armed guards on trains, and the patrolling of trains throughout their length by conductor guards at every stop.

Ticketless Travel

Considerable time was devoted to discussing the problem of ticketless travel, of which Dr. Matthai said it was estimated that 10 per cent. of the total travelling public were without tickets. Cases detected showed an increase of 100 per cent. between 1941 and 1946.

Dr. Matthai emphasised the need to conserve railway revenues in view of the fact that this year an extra Rs. 45 crores had to be found to meet the increase in wages. He said that it might become necessary to increase fares and rates, but before the Government considered the question, the railway authorities should find ways and means to increase revenue.

Rolling Stock Requirements

During the conference the urgent need for more wagons and coaches was stressed. Dr. Matthai said that, making allowances for the decrease in military traffic, the railways were handling 20 per cent. more traffic than before the war. While there were actually more wagons now than in the pre-war years, their turn-round had deteriorated, resulting in fewer wagons being available.

UNITED STATES

Seaboard Air Line "Silver Comet"

A new overnight streamline passenger train was placed in service by the Seaboard Air Line between New York and Birmingham, Ala., on May 18. The train, known as the "Silver Comet," runs from New York to Birmingham (1,087 miles) in 23 hours, calling at Washington and Atlanta as well as several intermediate stations. Three sets of equipment are used to maintain the services. The coaches and dining cars have been built by the Budd Company.

Refrigeration Research

The Association of American Railroads has decided to extend throughout the year and into 1948 the tests which the Bureau of Refrigerator Car Research is conducting to decide what further improvements can be made in the construction and operation of refrigerator cars in order to develop the type best suited to serve the needs of perishable freight consignors. At the same time, the scope of the tests will be broadened greatly so as to make them the most comprehensive ever undertaken.

The tests to be conducted this year will be on a more extensive scale than hitherto. Eight specially-built refrigerator cars will be equipped with new devices which will make it possible for the first time to measure the flow of moist air. In addition, new instruments will be used to register the solar heat loads on the exterior of the car, the effect of nocturnal or sky radiation, and the value of film resistance and dead air spaces in refrigerator car superstructures. Tests will be made also to decide the proper amount of insulation for refrigerator cars used in perishable freight service.

BRAZIL

North to South Connection

The link-up between the Central Railway and the Viâçao Ferrea Léste Brasileiro in Bahia, referred to in *The Railway Gazette* of October 19, 1945, advanced further when a locomotive of the Central Railway entered Monte Azul on January 21 last. Completion of the line to Monte Azul concluded the Central Railway's part in the undertaking.

When work began, Montes Claros was the terminal of the Central Railway in the State of Minas Geraes, while the Viâçao Ferrea Léste Brasileiro terminated at Contendas in the State of Bahia. The extension from Montes Claros to Monte Azul was assigned to the Central Railway, and that from Contendas to Monte Azul to the National Department of Railways. It is 148 miles from Montes Claros to Monte Azul, and from Monte Azul to Contendas is 222¼ miles.

Work began in 1942, and by 1943 the line was ready as far as Burarama. By 1945 construction had progressed to Janauba, and in December, 1946, had reached Monte Azul.

In the opposite direction, construction has proceeded *via* Francisco de Souza,

Progress of the new connection between Bahia and the State of Minas Geraes, Brazil

Tanhassú, and Ourives up to Umburana. Trains are running already as far as Umburana, and earthworks are almost ready up to Caculé. A map published in *The Railway Gazette* of January 7, 1944, showed the new line in relation to other construction proposals for linking isolated systems so as to provide through communication as far as Belém on the north coast.

U.S.S.R.

Leningrad Underground Railway

After a lapse of several years during the war, construction of the underground railway at Leningrad has been resumed. On account of the swampy nature of the soil, the working shafts have had to be sunk to depths varying between 130 ft. and 195 ft. A further handicap is reported to be the drainage system built in the time of Peter the Great, which necessitates building the lines at a deep level.

SOUTH AFRICA

Development of Tourist Industry

The South African Tourist Corporation Bill, which the Minister of Transport has introduced in the House of Assembly, is a revision of the Tourist Development Act of 1938 (see also *The Railway Gazette* of January 24). The Bill empowers the Tourist Corporation to concern itself with all matters pertinent to the tourist industry in South Africa, in addition to publicity work overseas. The hotel trade will receive special attention, and the Bill provides for the registration, grading, and classification of hotels on a voluntary basis.

The Board of Control of the corporation is to be reconstituted. It will then consist of nine members, four representing departments of State, and four from private enterprise, with an independent chairman. The administrative and clerical

staff will be servants of the Railway Administration. To ensure that the creative work of the corporation is in capable hands, the board will have the right to engage specialists.

Under the new method of financing the corporation set up by the Bill, the consolidated revenue and railway funds will contribute equally to a total of £100,000 a year. The Railway Administration will provide two-thirds and the Treasury one-third of any provision beyond that figure. The corporation also will be entitled to accept contributions from public and private bodies.

SWITZERLAND

Rhaetian Results in 1946

Although total receipts of the Rhaetian Railways for 1946, at fr.20,150,000, were fr.710,000 higher than in 1945, expenditure rose to such an extent as to result in a deficit of fr.1,310,000, as against the loss of fr.120,000 in the previous year. Taking no account of interest payments (fr.2,960,000) and depreciation (fr.2,100,000), however, a surplus of fr.3,750,000, as compared with fr.5,150,000 in 1945, would be shown. The profit and loss account closed with a favourable balance of fr.6,376, as against the credit of fr.31,699 in 1945.

Connection with Italy

It was stated at the general meeting of the Rhaetian Railways that the company was seeking powers to acquire the railway between Campocologno and Tirano (2½ miles), which affords a connection with Italy. At present this section is worked by the Rhaetian Railways under a lease agreement with an Italian company. The Campocologno-Tirano line proceeds from the latter place for 18 miles to Sonobrio, where it connects with the Italian State Railways standard-gauge line to Milan, but the Rhaetian Railways do not propose to operate beyond Tirano.

Rolling Stock Programme

A ten-year programme for the modernisation of Rhaetian Railways rolling stock was set on foot in 1946, and a first batch of two second class and 13 third class carriages, all four-wheel bogie vehicles, has been ordered accordingly. Deliveries are expected to begin within the current year. Furthermore, 18 obsolescent third class four-wheel coaches are to be converted into nine four-wheel bogie vehicles within the next five years at a cost of fr.540,000.

NORWAY

Central Station for Oslo

A further important step has been taken in the project for a central station in the Norwegian capital. A committee established in 1938 recommended the unification of the Oslo railway systems. Oslo West Station was to be abandoned, and the western lines were to be projected in a double-track tunnel through the town centre to Oslo East Station, which was to be converted into a central station serving all lines. It thus would consist of a terminus for the eastern lines, and through platforms for the western lines.

To find a suitable design for such a station, an architectural competition was arranged, the results of which now have been published. The winning project, designed by the architects John Engh and Peer Qvam, envisages a representative building facing the Railway Square, and housing the administrative offices. The ground floor is reserved for the booking offices, which are accessible from a large entrance hall. There are separate entrances for pedestrians and those arriving by taxi or private car. The entrance hall is flanked by the luggage and cloak rooms. In the centre, a broad flight of stairs leads up to the central hall, which merges with the terminal platform circulating area. The northern end of the hall is extended as a footbridge over the through platforms of the western lines.

FRANCE

Locomotives from America

It was stated recently in the French Press that 20 new locomotives built in Canada to French specifications were on their way to Cherbourg. Seventeen American locomotives consigned to France, it was reported also, were lost at sea when a Norwegian freighter foundered about a month ago.

Mont Blanc Project Deferred

Construction of the road tunnel under Mont Blanc probably will be abandoned. According to a communique recently issued by the Ministry of Public Works & Transport, the plan has been declared inopportune at present because of the heavy expenditure it would involve.

Publications Received

A History of the Institution of Mechanical Engineers, 1847-1947. Centenary Memorial Volume. By R. H. Parsons. London: The Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1. 10 in. × 6½ in. 299 pp. No price stated.—It is related that the first move towards forming the Institution of Mechanical Engineers was taken one rainy afternoon in 1846, when a group of railway engineers who had been watching locomotive trials on the Lickey Incline took shelter in a platelayer's hut. There the discussion turned on the recent refusal to admit George Stephenson to the Institution of Civil Engineers unless he submitted a probationary essay. It was felt that the time had come for the mechanical engineers to have an institution of their own, and after the reactions of the profession had been tested and found favourable, a meeting at the Queen's Hotel, Birmingham, on January 27, 1847, formally founded the institution. George Stephenson was the first President.

Mr. Parson's history of the affairs of the institution will be found of deep interest by all students of mechanical engineering, for in addition to its domestic concerns he devotes six chapters to topics of discussion during its life. Here there are many sidelights on contemporary opinion which make fascinating reading in the light of subsequent events. We find, for example, a meeting of the institution almost concerted in approving Mr. Francis W. Webb's design of a compound locomotive for the L.N.W.R. in 1881, with the high-pressure and low-pressure cylinders driving separate axles, without coupling rods. Only the Engineer of the Russian South Western Railways foresaw those difficulties in starting which in due course, says Mr. Parsons, "became almost an engineering scandal." These chapters have been illustrated with numerous drawings, representative of the variety of topics discussed. The conversion of a "sociable" into a single-seat tricycle, a proposed hydraulic excavator for the Channel Tunnel, and a fireless locomotive for tramways are among the less familiar subjects.

In his closing chapters the author deals with several noted presidents of the institution, drawing on letters and other documents in the archives to depict their personalities and achievements. Several of George Stephenson's letters are reproduced. Many of the historical treasures of the institution are described, some of which were displayed at the Science Museum, South Kensington, during the centenary celebrations from June 9 to 13 this year.

New Methods of Analysis of Machining Processes. By M. Eugene Merchant and Norman Zlatin. 1946. Addison-Wesley Press Inc., Kendall Square Building, Cambridge 42, Mass., U.S.A. 11 in. × 8½ in. 24 pp. Reprinted from *Experimental Stress Analysis*, Vol. III, No. 2.—The intense concentration of recent research on the analysis of the metal-cutting processes has suggested new methods of theoretical treatment which, when applied to the testing of machine operations, have yielded more information than could have been obtained merely by applying the standard machinability techniques. The authors give first a short survey of the theoretical findings and the basic equations derived therefrom, and then present a useful series of nomographs, intended to facilitate the use of these basic equations. Tables of characteristic test data for various work materials and cutting fluids are given also. There are useful practical hints for experimental technique in carrying out cutting tests and in using the tool dynamometer, and in general the paper is a valuable addition to the extensive existing literature.

The Metal Bulletin's British Iron and Steel Directory, 1947. London: Metal Information Bureau Limited, Princes House, 39, Jermyn Street, S.W.1. 7¼ in. × 4¾ in. 224 pp. Paper covers. Price 5s.—The first edition of this directory has been produced in pocket-size, and it is intended primarily for the use of overseas buyers. The directory has been compiled as a guide to British producers and suppliers of all descriptions of iron and steel. There is a classified section, in which a wide range of products is segregated, with the respective suppliers; an alphabetical section gives addresses, telephone numbers, and telegraphic addresses of the firms concerned. At the beginning of the directory a classified index provides a ready means of reference to makers, merchants, and works' agents.

Coded Continuous Cab-Signalling. London: Westinghouse Brake & Signal Co. Ltd., 82, York Way, Kings Cross, N.1. 7 in. × 9 in. 12 pp. Photographs and diagrams.—This booklet gives a general explanation of the principles of operation of the coded continuous cab-signalling system, some extensive installations of which are in regular service in the U.S.A., together with some introductory notes on other methods of giving indications in the engine cab; and then describes the equipment which has been applied to L.N.E.R. locomotive No. 3293 and to the down main line between the Greenwood signal box and a point a short distance in rear of Potters Bar Station, for trial purposes. The text is clearly written, and an excellent coloured diagram enables the functioning of the light-signal aspects in the engine cab to be followed in detail.

Improved Open Coach for London Transport

For Metropolitan services between the City and outer suburbs

A NEW vehicle has joined the London Transport experimental car No. 17000 which went into service on the Metropolitan Line between the City, Rickmansworth, and Watford 18 months ago. Car No. 17000 was described in our February 1, 1946, issue. The new car, No. 20000, reverts to the centre-corridor arrangement from the side corridor introduced in its predecessor. It retains the principle, however, of dividing the interior into three sections, but in this instance provision has been made for intermediate sliding doors.

Door Control

As in the previous car, the main entrance doors are arranged for control either by the guard or by passengers. The passenger-operated push-buttons control only one leaf of the sliding doors, so that unnecessary draughts at stations with small traffic are avoided.

An illuminated "press to open" panel shows when the doors are under passengers' control. Closing in all cases is performed by the guard.

The car contains 56 transverse seats, disposed two at each side of the longitudinal centre gangway. It is divided into three sections by the two entrance vestibules. Two methods of providing handholds for passengers standing in the vestibules have been adopted. One vestibule has a central vertical pole, and in the other, grips are provided suspended from the roof in the standard manner. Passengers standing in the body of the car can use grips fitted to the seats, and the outer rails of the longitudinal luggage racks. Beneath the main racks, a smaller rack is provided for light articles.

The seats are of the semi-bucket type, and provide a width of 1 ft. 8 in. per passenger. Two of them are upholstered with Dunlopillo expanded-rubber cushions. A recess in the carriage wall below the windows provides an arm-rest. Hinged ash-trays are fitted adjacent to all seats, arranged to pull forward, and to return flush with the wall by means of a spring after use. A new type of heater has been adopted, which is fitted to the front of the seat risers, so as to reduce the dissipation of warmth under the seat which was experienced with the earlier type of recessed heater and grille.

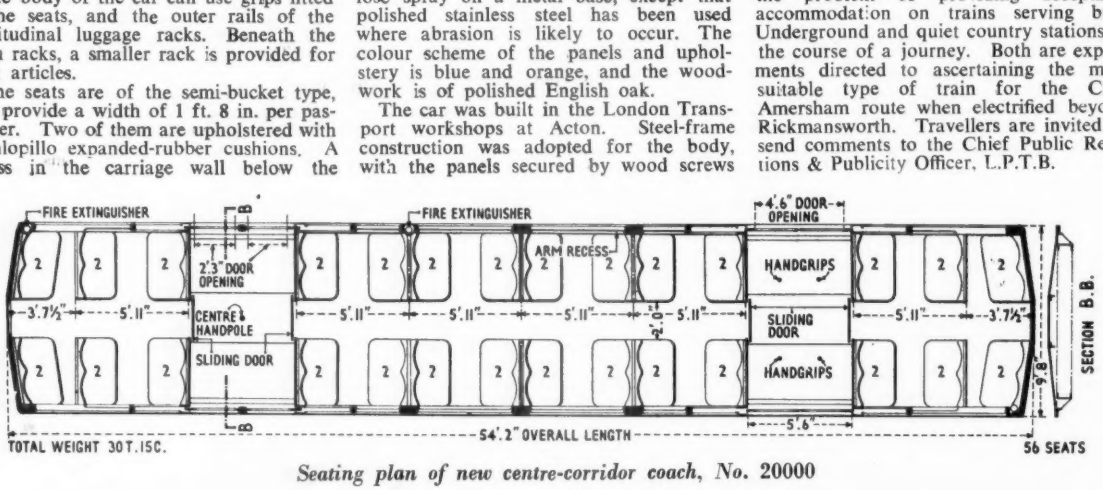
The car is equipped with fluorescent lighting supplied with a.c. at 1,200 cycles from a motor-alternator. In addition, a motor-generator with a 50-volt d.c. output provides for emergency lighting by means of a battery on floating charge, and operates four air circulators in the roof. The lighting fittings are constructed as an integral part of the architectural shape of the car, and form a moulding between the lower half of the ceiling, which is elliptical in form, and the centre part of the ceiling, which is in the form of a coffer with flat top and round sides. The heaters are supplied from the 600-volt traction circuit.

Interior fittings are finished with a cellulose spray on a metal base, except that polished stainless steel has been used where abrasion is likely to occur. The colour scheme of the panels and upholstery is blue and orange, and the woodwork is of polished English oak.

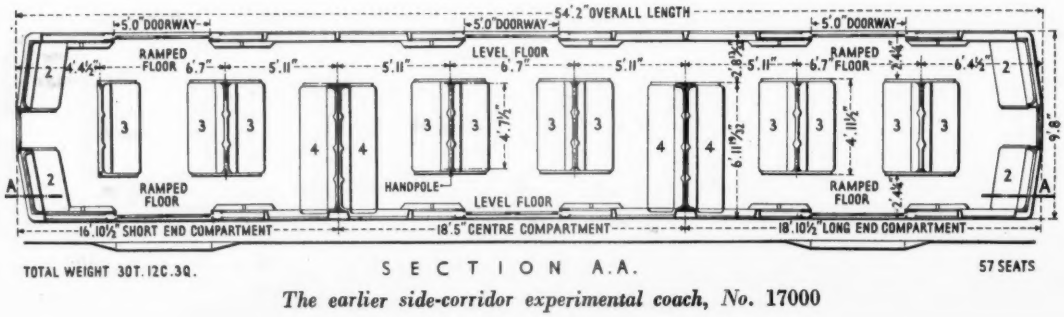
The car was built in the London Transport workshops at Acton. Steel-frame construction was adopted for the body, with the panels secured by wood screws to wood furrings. The body was built on a Metropolitan Line underframe, mounted for the present on District Line "K.2" type bogies with 36-in. wheels. The vehicle went into service between the City, Rickmansworth, and Watford on June 11.

Cars No. 17000 and 20000 represent two approaches by London Transport to the problem of providing acceptable accommodation on trains serving busy Underground and quiet country stations in the course of a journey. Both are experiments directed to ascertaining the most suitable type of train for the City-Amersham route when electrified beyond Rickmansworth. Travellers are invited to send comments to the Chief Public Relations & Publicity Officer, L.P.T.B.

Coach interior showing air circulator in roof



Seating plan of new centre-corridor coach, No. 20000



The earlier side-corridor experimental coach, No. 17000

Power Supply for Central Line Extension

Centralised control of substations for supplying London Transport trains on the new route to Greenford and Ruislip

THE power supply for the Western Extension of the Central Line from North Acton to Ruislip (already opened to Greenford, as recorded in our June 27 issue), is being provided by the Metropolitan Electric Supply Company, and is received as three-phase a.c. at 22,000 volts 50 cycles. This supply is picked up at a switch-house located at Old Oak Common, and from this point is transmitted by means of 22,000-volt cables alongside the line to the various substations, where it is converted to 630 volts d.c. for distribution to the conductor rails.

Five substations ultimately will be in service, and the 22,000-volt cables are arranged to form two loops, one to feed three substations situated at Old Oak Common, Greenford, and Ruislip; and the second loop supplying the substations located intermediately at Brentham and Northolt. This arrangement has been adopted to ensure that the supply to any substation will be maintained adequately in the event of a cable fault on either loop, and so that even if an entire loop were put out of service, the remaining loop would enable a reasonable train service to be maintained over all sections of the line.

Every substation is equipped with 22,000-volt switchgear for controlling the incoming supply and for its distribution to the various items of the installation. In every circuit there is an automatic circuit-breaker arranged to disconnect the apparatus should a fault develop.

The substation converting equipment consists of two separate units, each comprising a step-down transformer and a mercury arc rectifier. The transformers are of the oil-insulated, natural-cooling type, producing a six-phase supply on the low voltage side, which is connected direct to the rectifier. The rectifiers are of the steel tank, water-cooled type, and are equipped with vacuum pumps and high-speed d.c. circuit breakers. Each unit has a continuous capacity of 1,500 kW.

In addition to the apparatus described herewith, every substation has d.c. switchgear for controlling the supply to the conductor rails, and transformers for supplying the lighting circuits and escalators at passenger stations. Equipment is included also for the operation of signalling apparatus, comprising an air compressor and two rotary frequency-changers which produce single-phase a.c. at 600 volts 33⅓ cycles. This special frequency is adopted to render the signalling circuits immune from interference from any other source.

The whole of the apparatus at every substation is controlled from a single switchboard located at Old Oak Common substation; all other substations will be unattended, except for a routine daily inspection. The control of the apparatus at the remote substations is effected over a single pair of wires by means of telephone-type selectors, which enable any piece of apparatus to be selected and operated at will. All changes occurring in the position of any item of apparatus, whether produced by the operator or by the working of automatic devices, is at once signalled back to the control station, where the operator's attention is drawn to the change, and the correct position is recorded on an illuminated diagram.

Protection for Tube Tunnel Entrances

Detecting the approach of out-of-gauge stock or steam locomotives

EXTENSION of tube railways to run over or alongside existing surface lines increases the possibility of full-size rolling stock being allowed inadvertently to approach the tunnel portals. At two points on the London Transport railway system—Barons Court and Finchley Road—surface line and tube vehicles of the board operate in proximity at the approach to tunnels. These locations are provided with detectors consisting of glass U-tubes filled with mercury, which are mounted over the tube tracks at such a height that they would be broken if vehicles larger than the tube cars passed beneath them. The consequent release of the mercury would complete a circuit to set the signals leading to the tube tunnel at danger, and operate their trainstops.

Location of Detectors

The arrangements at Barons Court and Finchley Road are described in the current issue of *The Electric Railway*. It has been possible in the case of Barons Court to position the detector so that there are two signals between it and the tube tunnel mouth.

At Finchley Road, however, the track layout at the approach to the station has prevented there being more than one signal between the detector and the tunnel, but additional protection is afforded by the installation of an additional trainstop worked directly from the detector.

A different situation arises at East Finchley and Leyton, where there are connections respectively between the Northern and Central Lines of the board and the L.N.E.R.

The particular system of detection adopted here discriminates between electric and non-electric units instead of between the size of vehicles. An insulated section of conductor rail is fitted on the opposite side of the track to the positive rail at that point. When the idle shoes of an electric train make contact with it, the rail is energised and the current releases locks which enable the points and signals to be set for the approach to the tunnel. A steam locomotive passing over the rail does not affect the locking circuit, and it therefore is quite impossible for it to be diverted inadvertently towards the tunnel.

New French Electric Locomotive

FRENCH electrification plans provide for the use of several hundred electric locomotives, and the S.N.C.F. has decided to embody improvements based on experience with the operation of earlier types in a new and more powerful BoBo locomotive.

Like previous BoBo classes of engines, the new engine is mounted on two bogies with two driving axles each. The four motors develop 2,400 h.p. Each axle carries 22 tons 12¼ cwt., the total weight in working order being 90 tons 10 cwt. The new locomotive has a maximum speed of 72 m.p.h., as compared with a speed of 65 m.p.h. with the earlier BoBo machines.

The locomotive is intended for service between Paris and Lyons, hauling either passenger or freight trains. With a freight train of 1,280 tons, its speed will be 51 m.p.h. on the level and 33 m.p.h. on gradients of 1 in 200. Hauling a passenger train of 490 tons in the same conditions, the corresponding speeds will be 71 m.p.h. and 63 m.p.h. The new class, designated "BB-0401," will be able to haul a freight train of 1,033 tons on the steepest gradients of the Paris-Lyons line, where an existing BoBo locomotive would be limited to hauling 886 tons. Electrification from Paris to Lyons is the first stage in the ten-year plan of the French National Railways, which was described and illustrated with a map in our November 8, 1946, issue.

Russian Railway Electrification

An electric train on the line serving the Mineralny Vody health resorts in the Caucasus

L.M.S.R. Permanent Way Developments—1

The evolution of the 113-lb. rail

DESPITE the difficulties of labour and supply arising from the war period and its aftermath, considerable progress has been made by the L.M.S.R. during recent years in the technical development of its permanent way, and in methods of maintenance and renewal.

These developments were initiated under the auspices of the L.M.S.R. Chief Civil Engineer (Mr. W. K. Wallace, C.B.E.) some years before the recent war, when, coincident with the development of high-speed traffic, it became apparent that steps would have to be taken to improve not only the strength and stability of the track, but also the methods of maintaining it, and, furthermore, to introduce methods of renewal whereby the times of occupation of the track would be reduced to the minimum. The three principal measures taken to meet these conditions have been the adoption of (1) flat-bottom track, (2) measured shovel packing, and (3) renewals by crane. Progress made in connection with flat-bottom track is described in the present article.

In 1936, it was decided to lay down some F.B. track as an experiment, so that reliable information as to its behaviour under traffic, climatic, and other conditions on the L.M.S.R. system could be gained, and to enable data comparative with the standard bull-head track to be obtained. A total of 5 miles of F.B. track was laid in selected locations where varying conditions of service prevailed.

The rail used in this experiment was the 110-lb. F.B. British Standard rail, and five different combinations of baseplate and fastenings were introduced. Two combinations followed the principle of American design, which has a "free" rail on the baseplate, and two combinations the German principle of design of "fixed" rail on the baseplate. The "free" rail principle provides a fastening which allows the rail to move vertically on the baseplate under the action of the precession wave, whereas the "fixed" rail principle provides for a fastening, usually clip and bolt, securing the rail to the baseplate. The fifth type of fastening combination was that known as the elastic rail spike, and it is designed to secure the rail and baseplate to the sleeper, and at the same time to absorb the movement between the rail and baseplate arising from the precession wave.

In 1939 the trials were extended and a further 11 miles of F.B. track were laid. Of this total, 5 miles employed the 131-lb. F.B. A.R.E.A. (American Railroad Engineers' Association) rail. With both weights of rail (110-lb. F.B. B.S. and 131-lb. F.B. A.R.E.A.), three combinations of support and fastenings were used; about $\frac{1}{2}$ of the total length was with a cast-iron baseplate and elastic rail spike fastening, another $\frac{1}{4}$ used a steel baseplate with elastic rail spike fastening, and the remaining $\frac{1}{4}$ a clip-and-bolt rail fastening with a cast-iron baseplate secured to the sleeper by three standard screws and wood ferrules.

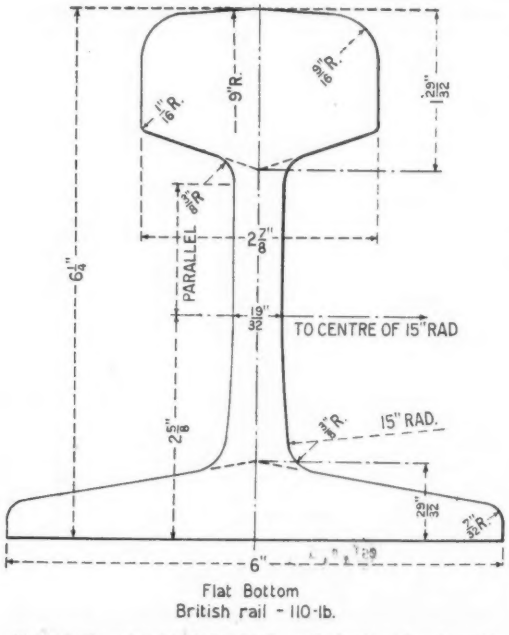
Varied Test Locations

Lengths of L.M.S.R. track were selected to give all necessary variable data as to conditions of service, and, as a "control," 95-lb. bull-head track was laid in alongside. The lengths chosen included two stretches where there were water-troughs, another on the run-off at water-troughs, and other stretchs on sections where heavy, dense, and high-speed traffic prevailed. Yet another length was in close proximity to the sea coast.

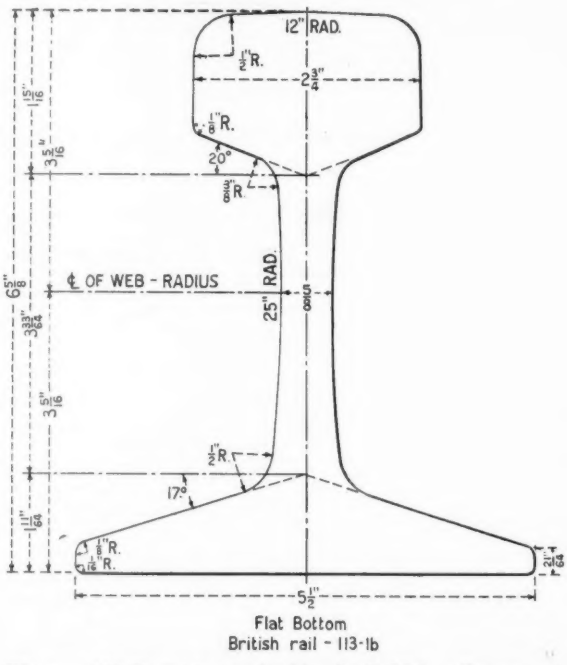
With the two German types of sleeper assemblies tried out in 1936, and all the types tried in 1939, a Poplar wood pad about $\frac{3}{16}$ in. thick was introduced between rail and baseplate. With all the types of baseplates used in 1936 and 1939, the underside was ribbed with shallow triangular ribs recessed into pre-cut grooves on the top of the sleeper.

Records of the maintenance requirements with the respective types of track were collated over several years, and this information was used as the guide to further design.

In 1944, about 5 miles of F.B. track was laid down using the 110-lb. F.B. rail and a re-designed baseplate. This new design of baseplate provided for a cambered rail seat, discarding the ribs on the underside, and, by thickening-up the metal round the holes for the elastic rail spikes, provided additional support to them. The baseplates were holed for six spikes, but only three spikes were used, the remaining holes being left available for use in the event of a splitting of sleepers or gauge widening. The Poplar wood pad was also discarded.



British Standard 110-lb. F.B. rail, designed primarily for securing direct to wooden sleepers in overseas countries



The new 113-lb. section evolved by the British railways and the Railmakers' Association, for use with baseplates in Great Britain

It was apparent, however, that a redesign of rail was necessary if full economies from F.B. track were to be obtained, and it was realised that the 110-lb. B.S. rail had been designed primarily for securing direct on to wood sleepers. It was also apparent that some betterment in design could be made in respect of fishing angles and junctioning with existing rail sections, and, furthermore, that additional vertical stiffness in relation to weight of rail was possible.

With the L.M.S.R. working in conjunction with the other main-line railway companies, with London Transport, and with the Railmakers' Association, an F.B. rail was designed of a weight of 113 lb. a yard.

A section of this, and of the 110-lb. B.S. rail, are reproduced. The following are the inertia values for the 95-lb. B.H.,

110-lb. B.S., 131-lb. A.R.E.A., and 113-lb. F.B.:—

Rails	Moment of Inertia Weight	Ixx Ins4	%	Iyy Ins4
95-lb. R.B.S. ...	0·365	34·7	100	4·08
131-lb. A.R.E.A. ...	0·675	88·5	185	—
110-lb. F.B., B.S. ...	0·522	57·17	143	11·22
113-lb. F.B., B.S. ...	0·584	66·0	160	8·88

The fishplates for the 113-lb. F.B. rail were designed on similar lines to the A.R.E.A. pattern, and inertia figures for pairs of fishplates for the above rail sections are as follow:—

Fishplates	Ixx (fishplates) Ixx (Rail)	Ixx Ins4
95-lb. R.B.S.	16·9	5·88
131-lb. A.R.E.A.	36·4	32·2
110-lb. F.B., B.S.	21·4	12·25
113-lb. F.B., B.S.	30·7	20·24

It will be seen that the ratio of strength to weight of rail with the 113-lb. section is substantially greater than with the B.S. sections. while the ratio of fishplate strength to that of rail shows considerable improvement.

During 1946 about 14 miles of L.M.S.R. track were laid using this 113-lb. F.B. rail, with baseplates designed to suit. The C.I. baseplate is similar in design to that used in 1944, that is, with cambered rail seat (six fastening holes) without ribs on the underside; no Poplar wood pads were used between rail and baseplate. Rolled steel baseplates have also been used with the 113-lb. F.B. rail; this plate is provided with six holes for fastenings, but with a flat rail seat.

Thus, there are no ribs situated on the underside of the baseplate nor Poplar wood pad between rail and baseplate. The fishplates used with the 113-lb. F.B. rail are of the 4-bolt type, and the joint is semi-supported in that the joint sleepers are brought close together under the fishplate.

F.B. Points and Crossings

The next logical step in the evolution of F.B. track is, of course, the construction of points and crossings in this medium. The L.M.S.R. is represented on the Committee, comprising Permanent Way Assistants from all companies, with a manufacturer's representative in collaboration, which was appointed to design switches and crossings using the 113-lb. F.B. rail, and experimental units which were designed as a result were laid down in 1946; these include both ordinary turnouts and a diamond crossing with single slip. The first two turnouts in 113-lb. F.B. rail were laid at Kegworth in August last, and were illustrated in *The Railway Gazette* of August 16 (page 199) and September 13 (page 309).

Further plain track and point-and-crossing work made from the 113-lb. F.B. rail are programmed to be laid down in 1947.

The total lengths of F.B. rail so far laid on the L.M.S.R. amount to:—

Type	(Single Track Mileage)
131-lb. A.R.E.A.	5¼
110-lb. F.B., B.S.	15½
113-lb. F.B., B.S.	19

Bulk Transport of Wheat in Victoria

Heavy traffic carried with economy to railways and farmers

BETWEEN December 1, 1946, and March 31, 1947, the Victorian Railways carried about 21 million bushels of wheat, 90 per cent. of it in bulk. The bulk-handling system now works with great precision. Since it was introduced (at Lascelles on November 30, 1939) over 96 million bushels, equal to about 2¼ million tons of wheat, have been transported by rail in bulk.

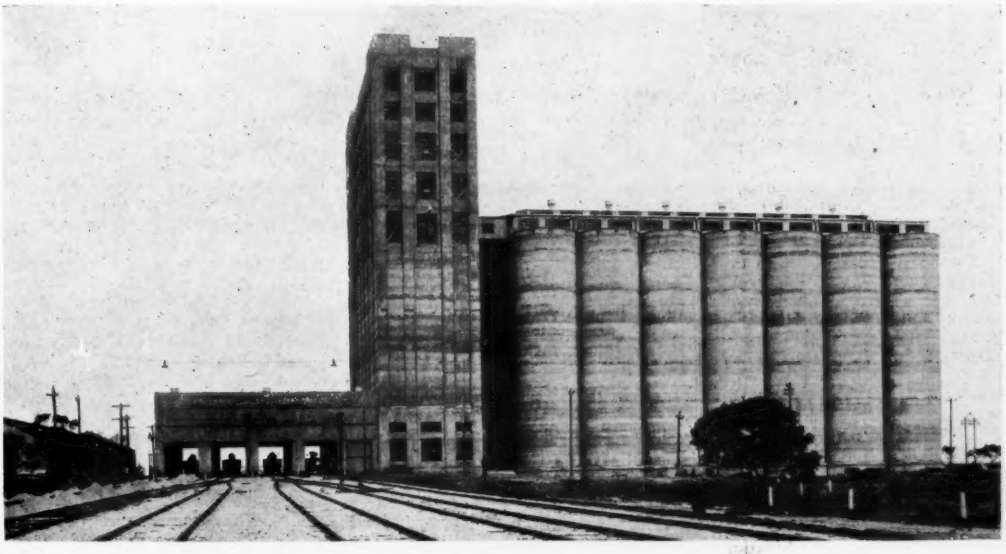
Bulk-handling has definite advantages for the farmer, the saving in corn sacks alone being considerable. This year, had it not been for the bulk system, the shortage of sacks might well have meant ruin for many farmers. It also enables railway wagons to be loaded at an overall rate of from three to four an hour; unloading takes about 10 min. a wagon. which has its advantages so far as wagon supplies are concerned.

An important development in connection with bulk-handling has been the greater use of road motor vehicles as feeders to the country elevators. Many farmers have converted their vehicles to hold wheat in bulk, saving the double process of bagging and unbagging.

Altogether there are 147 grain elevators in commission throughout the State, nine of them attached to flour mills. Their total capacity is more than 16½ million bushels. In addition, there are storages at Marmalake for 11 million bushels, and at Dunolly for 10 million bushels. There is permanent storage at Geelong for 4¼ million bushels, and emergency storage for a further 1¼ million. This year 32 bulkheads, holding about 3 million bushels, were used also as a temporary expedient in places where the yield was far in excess of the local silo capacity.

Rail-handling of the crop this year broke all records since bulk-handling was established. During one week 3,318 bulk wagonloads of wheat (equal to 2½ million bushels) were hauled, in addition to over 300 wagons of bagged wheat. During 1942-43, 22 million bushels were carried in bulk during the 12 months, but in four months of the present season nearly 19 million bushels have been carried already, and the previous record should be well eclipsed before the financial year ends.

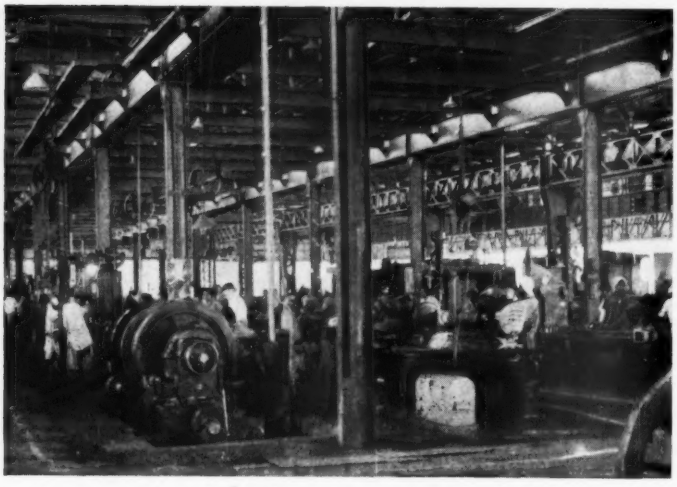
TRADE WITH JAPAN.—Subsequent to the recent announcement that private trade with Japan may be resumed from August 15, further details have now been given by the Board of Trade. In general, imports from Japan will have to be treated as equivalent to dollar imports. The Board of Trade further states that, should traders wish to use the facilities offered by it, the Sundry Materials Branch of the Board, through the United Kingdom Trade Mission in Japan, is prepared to act as a purchasing and selling agent for private traders. A list of firms sending representatives to Japan, who are prepared to consider representation of other firms in similar lines, is being prepared by the Export Promotion Department, and, when completed, will be sent on request to interested firms.



Bulk wheat silos at Geelong, Victorian Government Railways

Burma Railways Locomotive Workshops

Restoration of Insein to working order after war damage to be followed by complete rebuilding



Portion of machine shop, where temporary overhead shafting and belt drive has been installed

THE locomotive workshops of the Burma Railways, situated at Insein, 9 miles north of Rangoon, were built originally in 1876. In 1926-27 they were remodelled with up-to-date machinery, and prior to the evacuation of Burma in 1942, were capable of an annual output of 96 locomotive heavy repairs and 90 intermediate repairs. The workshops were evacuated in February, 1942, just before the Japanese captured Rangoon, and most of the modern plant was removed to Upper Burma, but has been destroyed since as a result of the war.

On the reoccupation of Rangoon in May, 1945, the workshop buildings were found to have been devastated by Allied bombing; they were practically devoid of machinery and stores, and were littered with all manner of wreckage. It clearly was impossible to restore the workshops permanently to their original form, but pending the arrival of new steelwork ordered by the Railway Administration from the United Kingdom, the Army Transportation authorities in 1945 did excellent work in restoring the damaged structures sufficiently for temporary use, and in providing the minimum essential equipment of machines and power generating plant to start work on recovering damaged Burma Railways engines, and on maintaining new locomotives brought in by the Army.

When the Railway Administration took over the workshops on January 1, 1946, they were faced by a complete absence of drawings, patterns and gauges, and a serious shortage of supervisory staff, skilled labour, and machines, plus a multitude of staff problems aggravated by the inflated cost of living. Work, nevertheless, proceeded steadily on scrap clearance, stores organisation, and the resumption of the repair schedule, with the result that the output now has reached an average of five repaired engines a month. This output is insufficient to overtake arrears of maintenance, but little further improvement is possible until the workshops have been completely rebuilt.

New machines are arriving every month, and steelwork for the rebuilding is coming to hand. The erection of the new shops and dismantling of all existing structures is about to begin, and it is hoped that within two years an entirely new workshop will be functioning, with modern layout and equipment.

On February 10 this year the works were visited by the Governor of Burma, Sir Hubert Rance, G.B.E., C.B., who was accompanied by Brigadier J. C. B. Wakeford, Chief Railway Commissioner, and Mr. N. Johnson, Chief Mechanical Engineer. His Excellency expressed great interest in what he had seen and congratulated the staff on the progress made and the satisfactory outturn despite numerous difficulties.

WELDING EXHIBITS AT OLYMPIA.—At the Engineering & Marine Exhibition, to be held at Olympia, London, from August 28 to September 13, there will be shown on the stand of Murex Welding Processes Limited, a wide range of electric arc welding plant, accessories, and electrodes. These will include a mobile 400-amp. diesel-engine-driven set, designed to function satisfactorily at extremes of temperature and altitude, and a 300-amp. motor generator set complete on trolley and fitted with the Murex remote-control regulator.

INSTITUTE OF TRANSPORT METROPOLITAN SECTION MEETINGS.—The following fixtures have been announced for the 1947-48 session of the Metropolitan Section, Institute of Transport:—1947: September 26, first annual dinner, Abercorn Rooms, Liverpool Street, E.C.; November 3, Mr. G. R. Strauss, M.P. (Parliamentary Secretary, Ministry of Transport) will speak on "Transport"; December 1, Mr. R. F. Woodhouse (Graduate) (Assistant Traffic Manager, Arthur Guinness Son & Co. Ltd.) will speak on "Carriage-Paid Conditions for Goods by Merchandise Train"; 1948: January 5, Lt.-Colonel H. I. Davidson, M.Inst.T. (Traffic Controller, John Lewis & Co. Ltd.) on "Traffic Problems of a Large Retail Distributor"; February 2, Mr. C. H. Minett, A.M.Inst.T. (Legal & Claims Manager, Gray, Dawes & Company) on "Some Cargo Problems of Carriage by Sea"; March 1, the President of the Institute (Mr. T. W. Royle, C.V.O., M.B.E., M.Inst.T.) will address the meeting; April 5, Mr. W. Fraser, M.A., A.M.Inst.T. (Secretary & Traffic Manager, Trent Navigation Company) on "Inland Water Transport." All ordinary meetings will be held at Livingstone House, Broadway, S.W.1, at 5.30 p.m. for 6 p.m.

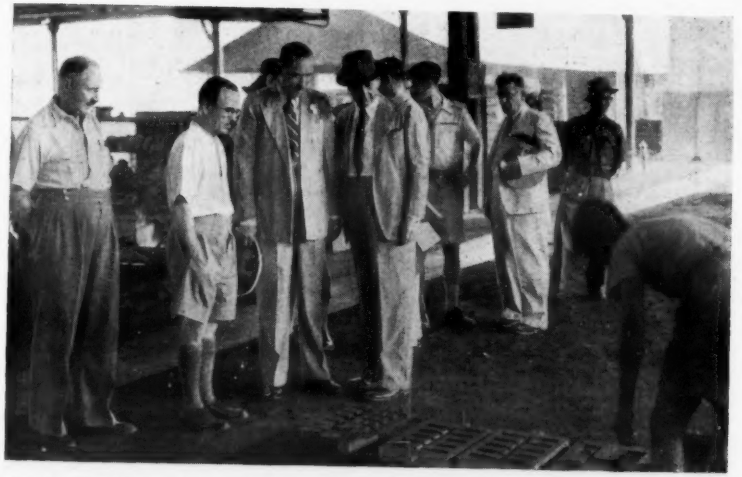
BRITISH TOURIST OFFICE FOR TORONTO.—As a part of its 1948 programme the British Travel Association (Tourist Division of the British Tourist & Holidays Board) is to open an office in Toronto which will be responsible for the distribution of information throughout Canada and also throughout the United States until such time as offices can be opened in American cities. It is intended, also, to organise such offices in other countries, and at the present time arrangements are in hand to ensure that the "Come to Britain" movement will be represented in 20 European capitals.

HIGHLAND TRANSPORT AGREEMENT.—An agreement effective for the period March 2, 1946, to December 31, 1947, between the Minister of Transport and the Postmaster-General on behalf of the Government, and David MacBrayne Limited, has been published as a White Paper. By this agreement the Minister of Transport will pay David MacBrayne Limited the sum of £33,000 for the maintenance of passenger, mail, and cargo services by sea, road, and ferry in the Western Highlands and islands. For the period of the agreement the Minister of Transport will pay to the company a sum equal to the excess over revenue of the expenditure entailed in providing the above services; or, if appropriate, the company will pay the Minister the excess of revenue from these services over the expenditure entailed. The agreement provides that the company shall at all times to the best of its ability ensure that its services are maintained in connection with the services of the L.M.S.R. and the L.N.E.R.

DISPLAY OF ENGLISH ELECTRIC PRODUCTS.—Among the firms to be represented at the Engineering & Marine Exhibition, which will be held at Olympia, London, from August 28 to September 13, will be the English Electric Co. Ltd., whose display will include a set of diesel engines, one a 6KT engine as used for diesel-electric traction, another a 200-kW. marine auxiliary generating set, and a third a small "H" type diesel engine. Models will be on view indicating the scope of English Electric work in the equipment of power stations. In the welding section will be shown examples of a.c. arc-welding equipment, which incorporates the H.F. ioniser unit, and both d.c. and a.c. models of stud welding gear, together with a demonstration table showing complete ranges of studs welded to various plates and other steel sections.

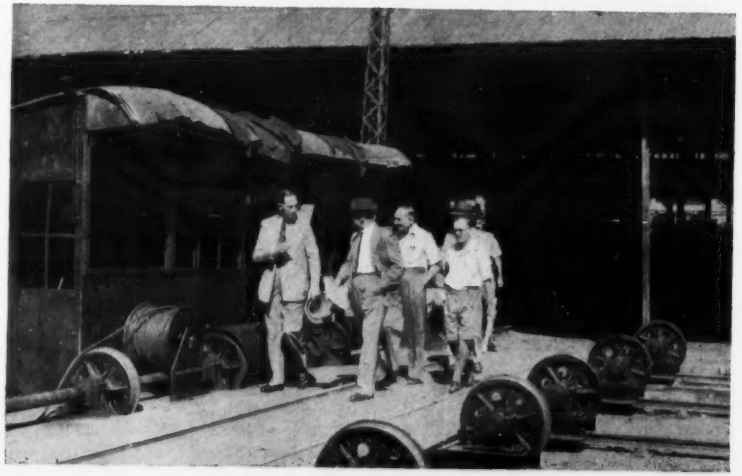
Governor of Burma Visits Insein Locomotive Workshops

Watching an engraving machine operator. Left to right: Mr. N. Johnson, Chief Mechanical Engineer, Burma Railways; Sir Hubert Rance, Governor of Burma; Mr. D. W. Hadfield, Deputy C.M.E., Burma Railways; and Captain Donald Burns, A.D.C.



In the moulding shop. Left to right: Brigadier J. C. B. Wakeford, Chief Railway Commissioner; Mr. A. Ferguson, Works Manager, Insein; Sir Hubert Rance; Mr. N. Johnson; and Mr. C. D. Claudius, Electrical Engineer

Inspecting operations in the moulding shop



The party crossing the traverser to the boiler shop

G.W.R. Containers for Bulk Traffics

New weatherproof and open types

Discharging the 3½-ton covered container

CONTAINERS of suitable design for bulk traffics provide a means of eliminating the unloading of wagons by hand, which in these days is a costly as well as a slow process. A brief account was given in our June 13 issue of two new types introduced by the G.W.R., and publicly demonstrated recently at St. Ervan's Road Depot, Westbourne Park. One of the containers is a covered design with bottom doors for gravity discharge, suitable for pulverised commodities requiring protection from the weather, such as cement, lime, and china clay. The open container lends itself to the conveyance of road-stone, gravel, sand, etc.

Principal Dimensions

The dimensions of the covered bulk container are: length, 5 ft.; width, 5 ft.; and height, 5 ft. It has a cubic capacity of 90 cu. ft., carrying a load of 3½ tons. The tare weight is 10 cwt. Three of the containers can be loaded into a standard open wagon, thus providing a payload of 10½ tons. In this container the framework is made of 2½ in. × 2½ in. angle framing. The sides, floor, and roof are all of ⅛-in. steel plate, and the floor plates are secured by continuous and fillet welding.

Experimental loadings with cement have taken place by means of a screw elevator from a silo, to which was attached a flexible tube making connection between the end of the elevator and the opening at the top of the container.

As recorded in our June 13 issue, containers of this type are being used for conveying cement from a contractor's works to the site of the new Rhayader Dam, with much economy in time and labour compared with handling the traffic in bags in the usual way.

The first illustration shows one of these containers discharging its load into a road vehicle during the demonstration at St. Ervan's Road. A 6-ton crane was used for handling the container, the contents of which were transferred from railway wagon to road vehicle in 1¼ min. The lever for unlatching the bottom doors through which discharge takes place can be seen in the illustration.

An important application of the open container is for the transport of road-stone, the design and unloading arrangements making it suitable for handling either dry or tarred stone. This container, also, is of 3½ tons capacity and has a tare weight of 10 cwt., enabling three to be loaded in an open wagon. The dimensions are: length, 6 ft. 6 in.; width, 4 ft.; and height, 3 ft. 6 in. The capacity is 91 cu. ft.

In the second illustration the method of discharge is shown. Having been lowered by crane on to the bed of the vehicle, two lever-operated clutches securing the hinged halves at the bottom are released. When the tackle is raised by the crane, therefore, the halves swing apart, depositing the load in the vehicle without the damage that might be caused by discharging it from a height. As in the covered container, the framework is constructed of 2½ in. × 2½ in. angles, with a ⅛-in. plate covering for the sides, ends, and floor. The angle of discharge when the container is open is 62 deg. The unloading was carried out during the demonstrations at St. Ervan's Road in 2¼ min.

In order to bring the two halves of the container together after discharge of load, the crane slings are released from lugs at the four corners, and two of the slings are hooked to centre lugs which, immediately on lift, bring together the two halves, and allow the clutches to be secured.

Both containers have been designed and constructed by the Chief Mechanical Engineer's Department, G.W.R., at Swindon.

The halves of the open container separate, depositing the load on the bed of the road vehicle

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WORKS VISIT BY STOCKHOLDERS AFTER ANNUAL MEETING.—The directors of British Insulated Callender's Cables Limited invited the stockholders to visit the local works of the company after the annual meeting on June 12. The response to this invitation was so large, however, that Sir Alexander Roger, Chairman, adjourned the meeting at the Adelphi Hotel, Liverpool, and at very short notice arranged for 500 stockholders to be conveyed by special coaches to the Prescot works, where the annual meeting was held in a marquee. Sir Alexander Roger said that the presence of so many stockholders showed a healthy interest in the affairs of the company. He would like to stress the importance of the humanising influence in concerns such as theirs and express his conviction that the idea of such visits could be copied with advantage by many firms. At the conclusion of the business meeting, luncheon was served, and after touring the factory, the visitors were given tea, and then left for Liverpool by special train. Later that evening, Sir Alexander Roger and the directors joined 800 of the staff for the second half of their annual dinner and dance, the first part of which was held the previous night.

The Royal Tour of South Africa

Interior of the Royal lounge. This coach, and the Royal dining room, shown below, were converted from existing "Blue Train" stock

Interior of the Royal dining room, which formed part of the Royal Train used in South Africa. *See paragraph on page 82*

The Royal Tour of South Africa

The pilot train which preceded the Royal Train during the South African Tour

New Light 4-8-2 Locomotive for New Zealand

New Zealand Government Railways "Ja" class 4-8-2 locomotive at Dunedin. This class, described in our October 4, 1946, issue, is based on the semi-streamline "J" class mixed-traffic engines

RAILWAY NEWS SECTION

PERSONAL

Mr. F. C. Bishop, Southern Divisional Superintendent, Southern Railway, has retired after 50 years service.

Mr. Eric Coleby, who, as recorded in our June 27 issue, has been appointed Acting Chief Legal Adviser and Solicitor (England) to the London & North Eastern Railway Company, was educated at Westminster School, and on leaving there entered the office of Mr. Dixon H. Davies, Solicitor to the Great Central Railway Company, to whom he was subsequently articled. He was admitted a solicitor in 1911, and remained with the G.C.R. until the outbreak of war in 1914. After returning from war service in 1919, Mr. Coleby went into private practice until 1927, when he was asked to take charge of the legal work of the Cheshire Lines Committee at Liverpool. In 1928 he was appointed Assistant Solicitor to that Committee, and remained with it until 1935, when he took charge of the Conveyancing Section in the office of the Chief Legal Adviser to the L.N.E.R. In the next year he was appointed Assistant Solicitor (Conveyancing), L.N.E.R., and in 1943 was made responsible for the Conveyancing and Common Law Sections. Mr. Coleby was appointed Chief Assistant Solicitor in January, 1945, subsequent to the retirement of Mr. W. H. Hanscombe.

Mr. Eric Coleby

Appointed Acting Chief Legal Adviser and Solicitor (England), L.N.E.R.

Mr. W. R. Verdon Smith and Mr. C. H. Davey have been appointed Directors of Babcock & Wilcox Limited.

Major C. R. Turner, C.M.G., E.D., A.M.I.Mech.E., General Manager & Harbour Authority, Gold Coast Government Railway & Takoradi Harbour, who is retiring, took up an appointment in November, 1919, with the Great Southern Railway of Spain. In 1923 Major Turner went to Nigeria on railway construction work; and two years later was posted to the Gold Coast Government Railway, with which he served as Assistant Locomotive Superintendent, District Locomotive Superintendent, and Running Superintendent, before being appointed Chief Mechanical Engineer in 1937. He was appointed General Manager & Harbour Authority in November, 1942, and will retire from that appointment in October of this year.

Mr. Ion Buchanan Pritchard, whose death, at the age of 66, we recorded briefly last week, retired at the end of 1945 from the position of Legal Adviser to the Railway Companies' Association, and had been Chief Legal Adviser to the London & North Eastern Railway Company from 1929, and to the Great Western Railway Company from 1941, until, for reasons connected with his health, he retired from those positions as from December 31, 1942. He was the elder son of the late Professor Urban Pritchard, formerly Aural Surgeon, Kings College Hospital, and Professor of Aural Surgery, Kings College. Mr. Buchanan Pritchard was educated at Clifton and at Trinity College, Cambridge, where he took his M.A. degree. He was awarded the John Mackrell Prize at the final of the solicitors' examination, and served his articles with Sharpe, Pritchard & Company, Solicitors & Parliamentary Agents. He was admitted a solicitor in October, 1906. He became Assistant Solicitor, Metropolitan Railway, in 1913, and Chief Solicitor in 1918, which office he relinquished at the end of 1928 to take up the duties of Chief Legal Adviser & Solicitor to the L.N.E.R. on January 1, 1929. He became also Chief Legal Adviser to the G.W.R. in 1941. Since his retirement at the end of 1942 from those positions he had been Legal Adviser to the Railway Companies' Association, until the end of 1945.

Lafayette [*London*

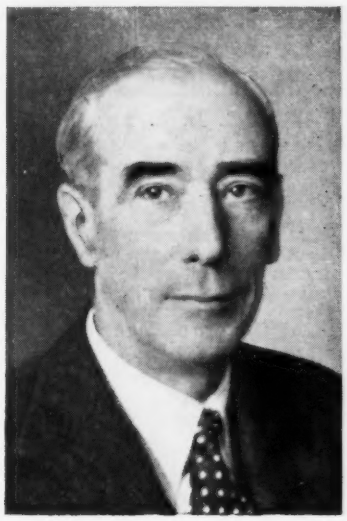
The late Mr. I. Buchanan Pritchard

Chief Legal Adviser, L.N.E.R., 1929-42; Chief Legal Adviser, G.W.R., 1941-42; Legal Adviser, Railway Companies' Association, 1943-45

Mr. N. R. Crump and Mr. G. A. Walker have been elected Directors of the Toronto, Hamilton & Buffalo Railway Company.

Mr. S. P. Chambers, a member of the Board of Inland Revenue, and until recently Chief of the Finance Division, Control Commission for Germany, has been appointed a Director of Imperial Chemical Industries Limited.

Mr. C. Phizackerley, who, as recorded in our June 27 issue, is retiring on September 30 from the position of Divisional Operating Manager, Derby, L.M.S.R., joined the L.N.W.R. as a probationer in 1901. Since the war of 1914-18 he has occupied the positions of Assistant District Superintendent, Swansea (from 1919); District Controller, Liverpool (from 1929); and Divisional Controller (Passenger Services) (from 1930), and Assistant Divisional Superintendent of Operation (from 1934), at Crewe. In 1935 he was appointed Assistant (Freight Services) to the Chief Operating Manager, and in October, 1944, became Divisional Superintendent of Operation, Derby. He was re-designated as Divisional Operating Manager, Derby, in November, 1946. During his period in charge of the Midland Division at Derby he has carried out the new operating scheme, combining 23 District Controllers for the division under seven District Operating Managers. Mr. Phizackerley is the son of the late Mr. G. T. Phizackerley, who retired from the position of District Goods Manager, Liverpool & Birkenhead, L.N.W.R., at the end of 1921, and was later a Director of the Liverpool Overhead Railway Company, of which he was Chairman for a short period. Mr. C. Phizackerley's son, Mr. P. N. Phizackerley, is in the service of the L.M.S.R., having served throughout the recent war with the Royal Engineers and Indian Engineers, attaining the temporary rank of Lt.-Colonel.



Mr. C. Phizackerley

Divisional Operating Manager, Derby, L.M.S.R., 1944-47

Mr. H. C. Towers, M.I.E.E., M.I.R.S.E., M.Inst.T., who has been appointed to succeed Mr. C. M. Carvey, who on May 5 last proceeded on leave preparatory to retirement, as Deputy Chief Engineer (Signals & Telegraphs), Bombay, Baroda & Central India Railway, received his initial training in the Civil Engineer's Office of the London Underground Rail-

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Mr. H. C. Towers

Appointed Deputy Chief Engineer (Signals & Telegraphs), B.B.C.I.R.

Mr. W. J. Scott

Appointed Divisional Engineer, Cardiff, G.W.R.

Mr. R. B. Temple

Appointed District Goods Manager, Sheffield, L.N.E.R.

ways, and subsequently was transferred to the Signal Department for the prescribed course for apprentices in signal engineering. He was trained as an electrical engineer in the School of Engineering of the London Polytechnic in Regent Street. Mr. Towers was appointed to the technical staff of the Signal Engineer's Office of the Underground railways at Earls Court in 1922, from which he resigned in 1926 to take up the post of Assistant Signal Engineer, Bombay, Baroda & Central India Railway. He was promoted Senior Signal Engineer in 1935, when in charge of the Bombay Signal Division, and was Signal Engineer of the metre-gauge section (some 2,000 miles) from 1938 to 1946. Mr. Towers has been an officer of the Auxiliary Force during the whole of his railway service in India, and during the war acted as Adjutant of the 2nd Battalion, B.B.C.I.R. Regiment, on several occasions. He is a Fellow of the Permanent Way Institution.

Mr. W. J. Scott, O.B.E., Assistant Divisional Engineer, Neath, Great Western Railway, who, as recorded in our June 20 issue, has been appointed Divisional Engineer, Cardiff, was educated at the Nautical College, Pangbourne, and served at sea for four years. He served an apprenticeship under Mr. J. C. Lloyd, then Chief Engineer, G.W.R., from January, 1926, to December, 1928, and subsequently became a Junior Assistant in the Wolverhampton Engineering Division of that railway. In 1932 he was appointed Senior Surveyor and Draughtsman in the Bristol Division, and in July, 1939, Assistant Divisional Engineer, Gloucester, which position he held until the outbreak of war. He went to France as second-in-command of 152 Railway Construction Company, R.E., with the rank of Captain, and was promoted Major in May, 1940, and commanded the company until June, 1942. He then served as Deputy Railway Construction Engineer, Southern Command, until June, 1943, and thereafter in a similar capacity in the Western Command. In October, 1943, he was promoted Lt.-Colonel and placed in command of No. 6 Railway Construction & Maintenance Group; he served in North-West Europe and was made an O.B.E. Mr. Scott returned to the G.W.R. in October, 1945, with the appointment of Assistant Divisional Engineer, Neath.

Mr. R. B. Temple, M.Inst.T., District Goods Manager, Leeds, L.N.E.R., who, as recorded in our June 27 issue, has been appointed District Goods Manager, Sheffield, joined the Passenger Department of the North Eastern Railway at Kirbymoorside in 1911. Subsequently he served at a number of stations on both goods and passenger work, and as relief clerk; during the war of 1914-18 he saw service with the King's Royal Rifle Corps. In 1920 he was appointed to the staff of Sir Alexander Kaye Butterworth in the General Manager's Office; and after the amalgamation he

Mr. D. Y. Faulkner

Appointed Assistant to Chief Commercial Manager (Trade Advertising), L.M.S.R.

Mr. James Elliott

Appointed Assistant Engineer (Permanent Way), L.M.S.R.

Mr. E. C. Dewick

Appointed Divisional Estate & Rating Agent, Glasgow, L.M.S.R.

continued to be at headquarters at York, in the Divisional General Manager's Office, until 1927. He then was appointed Stationmaster at Pickering, and from February to November, 1931, held a similar position at Hatfield. In the latter month he became Stationmaster, Southend. In 1933 Mr. Temple took charge of the then newly-formed Goods Development Section in the Goods Manager's Office, York. In March, 1939, he was made Assistant District Goods Manager, Leeds, and in September of that year became Acting District Goods Manager there. While at Leeds, Mr. Temple served as Railway Liaison Officer to the Regional Transport Commissioner, as a member of the Yorkshire Road-Rail Conference, and as railway representative on the North Eastern Regional Canal Conference. In October, 1943, he was appointed District Goods & Passenger Manager, Lincoln, and in April, 1946, returned to Leeds as District Goods Manager. Mr. Temple is interested in staff training, and played a large part in initiating the first L.N.E.R. training centre for station clerical staff, at Scarborough, in 1942.

Mr. D. Y. Faulkner, who, as recorded in our June 27 issue, has been appointed Assistant to the Chief Commercial Manager (Trade Advertising), L.M.S.R., entered the service of the L.N.W.R. in 1916 in the General Manager's Office. He saw service with H.M. Forces during the 1914-18 war, and on his return he was transferred to the District Superintendent's Office, Euston, to gain station and district experience. In 1923 he went to the Passenger Commercial Superintendent's Office at Euston, and he joined the staff of the Publicity Department in 1925. Mr. Faulkner served in the Home Guard from 1940 to 1944, attaining the rank of Major.

Mr. James Elliott, M.A., M.A.I., M.I.C.E., District Engineer, Walsall, L.M.S.R., who, as recorded in our June 27 issue, has been appointed Assistant Engineer (Permanent Way), Watford H.Q., was educated at Trinity College, Dublin. Before entering the service of the L.N.W.R. as a pupil under the late Mr. E. H. Townshend, Divisional Engineer, Walsall, Mr. Elliott held commissioned rank in the Army and was severely wounded in the 1914-18 war. He entered the District Engineer's Office, Fleetwood, L.M.S.R., in 1925, where he was engaged in general, permanent way, bridge and docks work. From 1928 to October, 1929, he was Divisional Hallade Assistant, Manchester, and was then appointed Resident Engineer, New Works. He was engaged on new works until November, 1930, when he was appointed Assistant to the District Engineer, Barrow-in-Furness; and in 1933 he became Chief Assistant to the Divisional Engineer, Hunts Bank, Manchester. He acted as District Engineer, Manchester Exchange, from April to September, 1935, when he was appointed Assistant to the District Engineer, Liverpool. In 1937 Mr. Elliott was appointed District Engineer, Abergavenny, and from 1940 was Acting District Engineer, Derby South, until 1941, when he was appointed District Engineer, Barrow-in-Furness. He became District Engineer, Walsall, from April 1, 1945.

Mr. E. C. Dewick, F.S.I., F.A.I., Divisional Land & Estate Agent, Glasgow, L.M.S.R, who, as recorded in our June 6 issue, has been appointed Divisional Estate & Rating Agent, Glasgow, joined the L.N.W.R. in 1903 as a junior clerk in the Estate Department. He served in the Royal Engineers (I.W.T.) from 1915 to 1919, and was commissioned in December, 1916. He studied at the Regent Street Polytechnic, London, in the School of Architecture and Surveying, and is a Bronze Medallist of that institution. On the amalgamation of the railways in 1923 he was appointed a surveyor in the London Divisional Estate Office, L.M.S.R., and in 1927 was transferred to Crewe as District Estate Agent. After two and a half years in the Crewe District he was appointed to a similar position for the Derby District. In 1944 Mr. Dewick went to Liverpool as District Estate Agent for the L.M.S.R. and Surveyor to the Cheshire Lines Committee, and in 1946 was transferred to Glasgow as Divisional Land & Estate Agent, Scotland.

Leopoldina Railway Staff Changes

Mr. G. L. Thornton to be Chief Mechanical Engineer, in place of Mr. E. H. J. Hanmer, retired.

Mr. R. W. Allars to be Traffic Superintendent, in place of Mr. F. D. Pryde, retired.

Mr. E. Siqueira to be Chief of the newly-created Staff Department.

Mr. A. W. Neele to be Chief of Transport.

Mr. H. E. T. Vogel, Chief Superintendent of Operations, Maintenance & Supplies, to be Chief Technical Assistant to the General Manager.

Among recent promotions in, and appointments to, the Order of St. John of Jerusalem, are the following:—

As Knights: Sir Eustace Missenden (General Manager, Southern Railway), Lord Latham (Member, London Passenger Transport Board).

As Commanders (*Brothers*): Mr. C. M. Jenkin Jones (Divisional General Manager, North Eastern Area, L.N.E.R.).

As Officers (*Brothers*): Mr. A. G. Hall (General Manager, North Western Railway, India), Mr. C. M. Stedman (Locomotive Running Superintendent, North Eastern Area, L.N.E.R.).

As Associate Officers (*Brothers*): Rai Bahadur N. C. Ghosh, lately General Manager, and Khan Bahadur G. Faruque, General Manager, East Indian Railway.

Mr. Miles Beevor's Message to L.N.E.R. Staff

Mr. Miles Beevor, who was recently appointed Acting Chief General Manager of the L.N.E.R., has contributed to the *L.N.E.R. Magazine* the following message:—

I should like to take the opportunity of sending, through the pages of the *L.N.E.R. Magazine*, a word of greeting to the whole of the company's staff. It is no light task to succeed Sir Charles Newton, who, in the course of his long and distinguished career, has so well earned the admiration and affection of the whole service; but I have been greatly encouraged by the many expressions of goodwill which I have received from so many quarters, and for which I am more than grateful. I only wish that more opportunities were available to me to meet and get to know everyone in the company's service, to which I am so proud to belong, and in which I have found so much happiness in the short space of the last four years. We are passing through difficult times, and in some respects the future of the transport industry and of the railway service seems obscure. But one thing I know is perfectly clear—that all railwaymen will continue their efforts, with such means as are available, to give the best possible service to the public. We of the L.N.E.R. will never forget the great traditions of our company, and it will always be my ambition, as well as yours, to keep alive our motto—"Forward."

We regret to record the death on July 12 of Mr. Charles Thomas Chapman, who was Chief Accountant of the San Paulo (Brazilian) Railway from 1925 to 1944.

We regret to record the death on July 11, at the age of 67, of Mr. C. T. Blacklock, Managing Director of the Clayton Dewandre Co. Ltd.

Mr. W. Cyril Williams, a Director of Beyer, Peacock & Co. Ltd., was a guest of the Commissioner of Railways for Western Australia during a tour in that State arranged for the delegates to the recent Australian and New Zealand Railways General (Officers') Conference in Perth.

We regret to record the death on July 3, at the age of 67, of Mr. Harry Brailsford, London Representative of the Gloucester Railway Carriage & Wagon Co. Ltd.

We regret to record the death on July 13 of Colonel William Parker, D.S.O., T.D., D.L., a Director of the Alcoy & Gandia Railway & Harbour Co. Ltd., Associated Automatic Machine Corporation Limited, British Automatic Co. Ltd., and other companies.

Presentation to Mr. C. Johnstone

At a recent meeting of railway commercial superintendents a presentation was made to Mr. C. Johnstone, who retired on June 30 from the position of Assistant Chief Commercial Manager (Passenger), L.M.S.R. Mr. C. G. G. Dandridge (L.N.E.R.), Chairman of the Railway Clearing House Commercial Superintendents' Conference, who presided, referred to the fact that Mr. Johnstone had been a member of the conference since 1943 and had been associated with Clearing House meetings for over 30 years. His wise counsel and sound judgment had been much appreciated by his colleagues. Mr Dandridge then handed him a cheque, which he was asked to accept as a token of the regard in which he was held by his colleagues. Mr. Johnstone, in accepting the cheque, expressed his sincere thanks. He said that during the long period he had been attending R.C.H. meetings he had made many friends, from whom he had received the greatest help and consideration.

The King at Buckingham Palace on July 8 conferred the honour of knighthood on:—Mr. John Smith Boyd, Permanent Vice-President, Shipbuilding Employers' Federation, Assistant to Superintendent, N.E. Area, L.N.E.R., 1923-27; Mr. John Samuel Dodd, Past-President, Associated British Chambers of Commerce; Mr. Ralph Freeman, Senior Partner, Freeman, Fox & Partners; Mr. Russell Kettle, Senior Partner, Deloitte, Plender, Griffiths & Company; Dr. Andrew McCance, Member, Advisory Council to the Committee of the Privy Council for Scientific & Industrial Research, Deputy-Chairman & Joint Managing Director, Colvilles Limited; Mr. Andrew Simpson Macharg, Senior Partner, McClelland, Ker & Company, Director, North British Locomotive Co. Ltd.; Mr. Greville Simpson Maginness, President, British Employers' Confederation, Chairman & Managing Director, Churchill Machine Tool Co. Ltd.; Mr. William Peters, H.M. Senior Trade Commissioner in the Union of South Africa; Professor Arnold Plant, member of Advisory Committee on Railway Subjects, London School of Economics & Political Science; Mr. Robert Hill Tolerton, Under-Secretary, Ministry of Transport. His Majesty's approval of these knighthoods was signified on June 12, 1947.

G.W.R. Station Renovation

Scheme evolved at Ealing Broadway to be model for all G.W.R. stations

During recent months, the G.W.R., has been making a special study of the visual appearance of its stations. Railway engineers, architects, and display artists have been carrying out experiments at Ealing Broadway Station, and as was reported in our July 11 issue, this station is to be the model for all stations and halts on the G.W.R. system. New stations are to incorporate the scheme evolved at Ealing Broadway Station, and modifications to existing stations will be proceeded with as soon as materials are available. In place of the existing type station nameboard, the new nameboards illustrated below have been introduced; the lettering used has been chosen for its clarity. The new nameboards are on a red and white background; they will be placed at eye level, and spaced along the platform about a carriage length apart. Direction signs have been improved, and are to be more numerous, so assisting the passenger, and at the same time easing the work of station staffs.

Poster displays have received special attention, and tasteful grouping of them has resulted in considerably brightened premises; commercial displays are in carefully laid-out panels.

In furnishing the stations, care will be taken to see that such objects as seats and automatic machines do not obstruct nameboards or posters, but fit in with the general scheme of improvement. An instance of this at Ealing Broadway Station is that shorter seats have been provided on the platform, so fitting between poster displays, and enabling passengers to obtain a clear view of them.

Particular attention is to be given to the layout of booking halls, and at larger stations there will be better circulating facilities. Improvements to the booking hall at Ealing Broadway have given more daylight and a cleaner appearance, and have simplified matters for the passenger. In future, there are to be no commercial advertisements in booking halls.

Repainting the stations is also to be proceeded with, and the colour scheme decided on is chocolate and three shades of stone.

International Union of Railways

The annual meetings of the permanent committees of the International Union of Railways were held this year in Stockholm, from June 3 to 13. The I.U.R. is the administrative body deciding questions of principle affecting the common interests of the various European railways in international traffic, and the five committees concerned at Stockholm, dealing respectively with (1) passenger traffic, (2) goods traffic, (3) accounts and exchange, (4) operating, and (5) technical questions, covered a wide range of subjects, on which recommendations were formulated for the solution of the practical day-to-day problems of international traffic, including co-ordination between rail and other means of transport.

The recommendations of the committees will be submitted for the approval of the board of management, of which Sir Eustace Missenden (General Manager, Southern Railway, and Chairman of the General Managers' Conference) is Vice-President.

The delegation from the British railways included Mr. R. H. Hacker (Continental Superintendent, Southern Railway, and Chairman of the Continental Traffic Managers' Committee, and of the Passenger Traffic Committee of the I.U.R.), Mr. L. H. K. Neil (Continental Traffic Manager, L.N.E.R.), Mr. L. C. Glenister (Chief Accountant, L.N.E.R.), Mr. W. J. Sawkins (Chief Accountant, Southern Railway), Mr. J. F. H. Tyler (Department of the Assistant Chief Engineer (Signals), L.N.E.R.), Mr. A. H. Toms (Research Assistant to the Chief Civil Engineer, Southern Railway) and Mr. W. B. Addinall (Assistant Secretary of the Continental Traffic Managers' Committee).

Illustrations of committees in session appeared in our issues of June 13 and June 27.

J. STONE & CO. LTD.—The company shows a net profit, after taxation, of £242,828 in 1946, as against £228,155 in 1945. An allocation of £50,000 is made again to general reserve, and a final ordinary dividend of 15 per cent. maintains the distribution at 25 per cent.

Arrangement of advertisement boards at Ealing Broadway Station, G.W.R.

Left: New design for station nameboard. Right: Improved layout of the booking hall

Argentine Railways Sale Agreement

Details of compensation to staff and directors

An editorial article on page 59 deals with the notices issued by the various British-Argentine railway companies relating to the scheme of arrangement drawn up as a result of the *ad referendum* sale of the properties to the Argentine Government. The notices explain that rejection of the scheme would entail operation of the railways "under even more onerous conditions than hitherto." Although difficulties in supply of materials since 1939 have prevented the carrying out of a full renewal policy, the properties still remain in serviceable condition, and recently have been carrying as heavy a volume of traffic as in any period of their history.

On the other hand operating costs, especially since July 1, 1946—to which date the sale agreement is retrospective—have increased substantially as a result of new working conditions increased wages and family allowances, and all the various taxes to which the companies are now liable since expiration of the relief afforded by the Mitre law.

"The railway undertakings are an asset of value," the directors state, "and under Argentine ownership, which would satisfy national aspirations, will be able to operate advantageously. But continued ownership of those railways by foreigners would meet with such difficulties as to make the sale on the present terms advantageous to present owners.

"It is clear to the directors that there is no alternative preferable to the sale, and they strongly recommend approval to the scheme, as, until the distribution of the net proceeds is approved, the Sale Agreement cannot become effective."

Pensions and Compensation

Provision for pensions and compensation in each of the companies is set out as follows in the scheme:—

B.A.G.S. GROUP	£
Pensions and compensation to staff for loss of employment	1,053,750
Compensation to directors holding substantially whole-time appointments	21,874
Compensation to directors for loss of office	24,376
B.A. WESTERN	
Pensions and compensation to staff for loss of employment	694,309
Compensation to directors holding substantially whole-time appointments	9,242
Compensation to directors for loss of office	12,508
CENTRAL ARGENTINE	
Pensions and compensation to staff for loss of employment	840,000
Compensation to directors holding or who have held substntially whole-time appointments	65,000
Compensation to directors for loss of office	25,000
B.A. & PACIFIC	
Pensions and compensation to staff for loss of employment	572,250
Compensation to directors holding or who have held substantially whole-time appointments	26,750
Compensation to directors for loss of office	30,000
ENTRE RIOS	
Pensions and compensation to staff for loss of employment	93,000
Compensation to a director who has held a whole-time appointment	5,000
Compensation to directors for loss of office	10,000
ARGENTINE N.E.	
Pensions and compensation to staff for loss of employment	100,000
Compensation to a director who has held a whole-time appointment	5,000
Compensation to directors for loss of office	10,000

The scheme provides for the companies being placed in liquidation as soon as practicable after payment of the purchase price. A payment to stockholders will be made on account as early in the liquidation "as may be," but final distributions must inevitably await realisation of all assets and discharge of all liabilities.

Ten groups of meetings to approve the scheme are to be held on seven days between July 24 and August 1, involving 55 class meetings.

Directors' Compensation

Aggregate compensation payable to individual directors from all companies includes the following:—

Sir M. Eddy	£25,256
Sir E. Bell	£9,970
E. B. Butler-Henderson	£7,130
Lord Davidson	£12,037
H. C. Drayton	£6,949
Lord Forres	£14,849
R. T. Harper	£9,970
Sir E. Mather-Jackson	£10,000
J. A. Goudge	£14,200
B. H. Binder	£6,080
W. M. Codrington	£3,080
C. R. S. Harris	£4,880
Count C. d'Anvers	£3,080
W. J. George	£4,680
J. Wilson	£10,000
W. Howard-Williams	£5,633
C. H. Pearson	£3,333
W. K. Whigham	£3,333
W. A. Pickwoad	£20,000
A. S. Matthews	£24,667
R. Leslie	£23,333

Sir Montague Eddy is Chairman of B.A.G.S. and B.A. Western, and is on the board of B.A. & Pacific and Central Argentine.

Sir E. Bell is a director of B.A.G.S. and B.A. Western.

The Hon. E. B. Butler-Henderson is a director of B.A.G.S. and B.A. Western.

Lord Davidson is Deputy-Chairman of B.A.G.S. and of B.A. Western, and is a director of Central Argentine and B.A. Pacific.

Mr. H. C. Drayton is Deputy-Chairman of B.A. & Pacific, and a director of B.A.G.S., Central Argentine, and B.A. Western.

Lord Forres is Chairman of Central Argentine, and a director of B.A.G.S., B.A. Western and B.A. & Pacific.

Lt.-Colonel R. T. Harper is a director of B.A.G.S. and B.A. Western.

Sir E. Mather-Jackson is a director of B.A.G.S. and B.A. Western.

Mr. J. A. Goudge is Chairman of B.A. & Pacific.

Mr. B. H. Binder is Chairman of Entre Rios and of Argentine N.E.

Mr. W. M. Codrington is a director of Entre Rios and Argentine N.E.

Lt.-Colonel C. R. S. Harris is a director of Argentine N.E. and Entre Rios.

Count C. D'Anvers is a director of Argentine N.E. and Entre Rios.

Mr. W. J. George is a director of Entre Rios and Argentine N.E.

Mr. J. Wilson is Managing Director of Argentine N.E. and of Entre Rios.

Mr. W. Howard-Williams is a director of B.A. & Pacific and Central Argentine.

Mr. C. H. Pearson is a director of Central Argentine.

Mr. W. K. Whigham is a director of Central Argentine.

Mr. W. A. Pickwoad is Managing Director of Central Argentine.

Mr. A. S. Matthews is a director and Secretary of Central Argentine.

Mr. R. Leslie is a director of Central Argentine.

Below is a list of the dates and times of the various meetings:—

July 24	
Buenos Ayres Great Southern Railway Co. Ltd.	
4 per cent. debenture stockholders	10.15 a.m.
5½ per cent. redeemable debenture stockholders	10.20 a.m.
5 per cent. preference stockholders	10.45 a.m.
6 per cent. preference stockholders	11.15 a.m.
Ordinary stockholders	11.45 a.m.
Bahia-Blanca & North Western Railway Co. Ltd.	
4 per cent. first debenture stockholders	3 p.m.
4½ per cent. second debenture stockholders	3.10 p.m.
Guaranteed stockholders	3.20 p.m.
July 25	
Buenos Ayres Western Railway Limited	
4 per cent. debenture stockholders	10.15 a.m.
5 per cent. debenture stockholders	10.20 a.m.
5½ per cent. collateral debenture stockholders	10.25 a.m.
5 per cent. preference stockholders	10.45 a.m.
4½ per cent. preference stockholders	11 a.m.
Ordinary stockholders	11.15 a.m.
July 25	
Buenos Ayres Midland Railway Co. Ltd.	
4 per cent. debenture stockholders	3 p.m.
Preference stockholders	3.10 p.m.
Ordinary stockholders	3.20 p.m.
July 28	
Central Argentine Railway Limited	
3½ per cent. central debenture stockholders	10.30 a.m.
4 per cent. debenture stockholders	10.40 a.m.
5 per cent. redeemable debenture stockholders 1967/87	11 a.m.
5 per cent. redeemable nonconvertible debenture stockholders 1967/87	11.30 a.m.
5½ per cent. bearer noteholders (excluding holders of interest coupons Nos. 36-50 inclusive)	11.45 a.m.
Holders of interest coupons Nos. 36-50, both inclusive, representing interest payable in respect of 5½ per cent. Bearer Notes	12 noon
Interest certificate holders	12.15 p.m.
4½ per cent. preference stockholders	2.30 p.m.
6 per cent. cumulative preference stockholders	2.50 p.m.
Consolidated ordinary stockholders	3.10 p.m.
Deferred stockholders	3.45 p.m.
July 29	
Buenos Ayres & Pacific Railway Co. Ltd.	
4 per cent. first debenture stockholders	10.30 a.m.
4½ per cent. second debenture stockholders	10.45 a.m.
4½ per cent. consolidated debenture stockholders	11.15 a.m.
5 per cent. (1912) debenture stockholders	12 noon
5 per cent. first preference stockholders	2 p.m.
5 per cent. second preference stockholders	2.30 p.m.
6 per cent. preference stockholders	3 p.m.
Ordinary stockholders	3.30 p.m.
July 30	
Argentine Great Western Railway Co. Ltd.	
4 per cent. first debenture stockholders	11 a.m.
4 per cent. second debenture stockholders	11.15 a.m.
5 per cent. debenture stockholders	11.45 a.m.
5 per cent. preferred stockholders	2 p.m.
6 per cent. guaranteed preference stockholders	2.30 p.m.
Ordinary stockholders	3 p.m.
Villa Maria & Rufino Railway Co. Ltd.	
4 per cent. first debenture stockholders	10.15 a.m.
Guaranteed stockholders	10.30 a.m.
July 31	
Entre Rios Railways Co. Ltd.	
4 per cent. debenture stockholders	11 a.m.
5 per cent. debenture stock holders	11.30 a.m.
5 per cent. consolidated debenture stockholders	12 noon
6 per cent. cumulative first preference stockholders	2.30 p.m.
4 per cent. second preference stockholders	3 p.m.
Ordinary stockholders	3.30 p.m.
August 1	
Argentine North Eastern Railway Co. Ltd.	
5½ per cent. prior lien debenture stockholders	10.15 a.m.
5 per cent. "A" debentures and debenture stockholders	10.30 a.m.
5 per cent. "B" debentures and debenture stockholders	11 a.m.
5 per cent. "C" debentures and debenture stockholders	11.30 a.m.
Ordinary stockholders	12 noon

INTERNATIONAL ORGANISATION FOR STANDARDISATION.—The first meeting of the council of the International Organisation for Standardisation (known as the I.S.O.) since the ratification of its constitution (drafted in London last October at a meeting of 28 nations) was held recently at Zürich. The council consists of the national standards bodies of Australia, Belgium, Brazil, China, France, India, Norway, Switzerland, United Kingdom, U.S.A., and U.S.S.R. The council appointed M. Henri St. Leger to be General Secretary, and his office will be at Geneva. The meetings were presided over by Mr. Howard Coonley (U.S.A.), President of the I.S.O. The International Electrotechnical Commission (formed over 40 years ago and with national committees in 23 countries) also held a council meeting, under the chairmanship of its President, M. Emile Uytborck (Belgium). As a result of the joint meeting between the I.E.C. and the I.S.O. it was agreed to recommend to the constituent members of the I.E.C. that that body should affiliate with the I.S.O.

The Transport Bill in the House of Lords

Government defeated on an amendment to establish a Scottish Transport Executive: Bill passes third reading

During the Report stage of the Transport Bill in the House of Lords, which opened on Wednesday, July 9, and concluded the next day, Viscount Addison, Leader of the House, proposed a series of amendments to define the limitations imposed on the manufacture by the Commission of road vehicle chassis and bodies. He said that they were designed to meet criticisms raised by the Opposition in the Committee stage.

The amendments were agreed to.

The House accepted also an amendment by Lord Addison to include in the executives to be set up a docks executive to be linked with inland waterways. He recalled that an amendment was carried in Committee providing that the docks administration should be in the form of the trusts which now operated many of the big docks. Considerable discussion had taken place with the interested industries and he had put down amendments to try to meet the material point without binding the Commission too tightly.

He had made a genuine attempt to meet Lord Swinton by providing that the Commission should have regard to the desirability of including in the membership of that body representatives of payers of dues and those otherwise interested in the trade and activities of the harbour.

Lord Swinton thought that this was a fair compromise. There was a good deal in the argument by Lord Addison that in entrusting the Commission with vast powers Parliament ought not to fetter it too much. He thought that the Commission would find, as time went on, that the best way of managing docks in the national interest would be to create port trusts. It was essential that the docks should be managed locally by people on the spot who knew local conditions.

Scottish Transport Executive

The Government was defeated by 65 to 24 on an amendment moved by Lord Selkirk to set up a Scottish Transport Executive.

Lord Selkirk complained that the Bill deliberately increased the degree of centralised control and said that what was required was resident and responsible management.

Lord Salisbury, Leader of the Opposition, said that the amendment would not only satisfy Scottish opinion, but also would try out the regional system and prove of the greatest value elsewhere.

Lord Airlie, supporting, said that if decentralisation was not given, problems of nationalisation would be magnified.

Lord Lindsay said that he did not know whether the amendment was the proper way to deal with a complicated problem, but if the schemes were going to run democratically, after working out the central administration they would have to investigate the possibilities of using local patriotism and local knowledge.

Lord Bridgeman said that the Scottish problem threw into relief the whole question of regional executives. If there were no regional executives, there would not be people with sufficient responsibility on the spot to implement the policy directed from London in accordance with local conditions.

Lord Walkden implored the House not to press the amendment. When, in 1920, prior to the amalgamation of the railways, a White Paper had been issued which had suggested grouping the Scottish railway companies, and the railway directors had asked that if there should be grouping it should be longitudinal grouping, that was done, and it had worked well.

Lord Swinton asked what was the London Passenger Transport Board but a regional executive. In view of the case of the L.P.T.B. he thought it was right to put in the Bill that there should be a regional executive for Scotland.

Lord Addison said that there were no nationalistic feelings involved. Government objections were based solely on what was the best way of running the business.

By an amendment proposed by the Government and carried, the Road Transport Clearing House achieved recognition. The Transport Commission is to be empowered to make agreements with persons "whether as agents of the Commission or otherwise for the provision of clearing house facilities in connection with the transport of goods."

Replying to an amendment moved by Lord Rochdale to Clause 94, Lord Addison said it could be stated categorically that it was the Government intention that the redemption of capital should take place over a period "extending well into the next century." It could be said that the period was not likely to be less than 80 years.

Lord Simon moved an amendment to provide that a dispute as to pensions referred to a referee or board of referees should be deemed to be an arbitration within the meaning of the Arbitration Acts.

He said that the Bill departed from the principles and precedent established under the Railways Act, 1921, which provided that a dispute about pension rights should be decided by a standing arbitrator or board of arbitration. Under the Bill, any dispute should be referred to a referee appointed by the Minister of Labour, and the decision would be a departmental one and final. There was nothing to secure the right of a man to have a dispute in law tried by a High Court Judge.

For the Government, Lord Chorley recalled that he had promised at the Committee stage that the matter would be looked into again in the light of discussions, and as a result of careful deliberations they believed that the methods provided in the Bill were a satisfactory way of dealing with the case.

It did seem to the Government that the two situations were not the same. This was a system which in one way or another had been given a pretty careful trial over a number of years, and a hearing before a referee was not a "hole and corner" method.

At this juncture, Lord Addison interjected to say that he had been in conference on the matter, and could make a suggestion which might provide a way out. They were greatly impressed by the case that had been put, and would regret that the matter should be settled by a division, but further opportunity should be given for consideration. He suggested that the amendment should be accepted on the understanding that some further modifications might be made later.

On that understanding the amendment was accepted.

Lord Gifford moved an amendment to ensure that employees of the road transport industry should be treated in regard to compensation on the same basis as railway employees.

Lord Walkden said that the Government could not accept the amendment. There was no adequate comparison between the position of road transport employees and railway employees. The position of railway staffs had been established and stabilised during 120 years.

Substantial road transport concerns were being taken over, and also very small concerns owning two or three vehicles, which had not been established very long and which offered no security to employees. Everything would be done, however, to give them fair play.

Lord Rothes said that people who had served road transport for 20, 30, or 40 years well and efficiently deserved careful consideration in regard to compensation for loss of office.

The amendment was then withdrawn.

Public Inquiries

The Government was defeated by 45 votes to 18 on an Opposition amendment to provide that public inquiries into schemes should be presided over by persons who were not servants or officers of the Minister.

Lord Swinton, moving the amendment, said that the inquiries would be of great importance, and would affect a large number of people. They might be prejudiced unless the person appointed to preside was independent. It was important to appear to be just, and to be just, evidence in the inquiry should be subject to cross-examination, and the report resulting from the inquiry should be published. All concerned with the inquiry should be convinced of its thoroughness.

In opposing the amendment, the Lord Chancellor said that any suggestion that the Minister would be judging his own case was wrong. The scheme was propounded by the Commission and it was wrong to regard the Minister as a Party in any sense to the controversy. If every report was published, the Minister might tend always to agree with the report because he would be laying himself open to criticism if he took any other course. There was also a danger of the report not being the real document at all, but some covering letter from some person who would feel that he was not in a position to say what he would be free to say if the report were confidential.

Lord Addison said that a man could not make a report properly if he knew it was going to be published afterwards. It would be destructive of the best interests of public administration to insist that in all these cases the report must be published.

A further series of amendments to secure that the report should be made available on payment of a reasonable charge, and that evidence should be subject to cross-examination, were agreed to by the Government to save a division.

The Report stage of the Bill was completed.

When the third reading of the Bill was put, on Tuesday, July 15, Lord Salisbury described as a "regrettable misunderstanding" events which led to the division last week on the publication of reports of public inquiries and the appointment of an independent chairman. The Opposition favoured the latter, but on re-reading the speeches, it was clear that its views and those of the Government were on parallel lines in regard to publication. No one wanted publication of confidential documents but a statement of the broad conclusions reached.

The Bill was passed.

Argentine State Railways

Tenders have been called for recently by the Argentine State Railways for the supply of radio-telephonic equipment for maintaining contact between locomotives, guards' vans, signal boxes, and stations.

The quantity of equipment covered by this tender represents, however, only a very small part of the ultimate needs of the railways, and will be used to carry out tests to ascertain its suitability, to gain experience in its use, and to train the staff to use it.

The present tenders cover the following requirements:—

(*a*) 20 complete sets for locomotives with corresponding aerials and supplementary sources of power (mobile).

(*b*) 20 complete sets for guards' vans with their corresponding aerials and sources of power.

(*c*) 10 complete sets for shunting engines with their corresponding aerials and supplementary sources of power (mobile).

(*d*) 6 complete sets for signal cabins or stations with their corresponding aerials (fixed).

A period of six months will be allowed in which the listed firms will be required to present their equipment for trial. It will need to be suitable for a frequency within the 158-160 megacycle band, and the maximum distance over which it should normally function will be 10 kilometres.

One frequency will be employed between the engines and freight cars, and another, within the above-mentioned band, for communicating along the permanent way, but in the actual trials it will be necessary to employ only one frequency for both these services.

In the locomotives electric power is supplied by a turbine generator group of 32 V. 500 W. a.c. or d.c., according to the locomotive type.

Other tenders called for recently by the Argentine State Railways include one for 15 locomotives of the Santa Fe type and another for 320 coaches and luggage vans.

Questions in Parliament

Stonehouse-Stroud-Nailsworth Line

Flight-Lieutenant B. T. Parkin (Stroud —Lab.) on June 30 asked the Minister of Transport if he was aware that there had been a 100 per cent. suspension of passenger services on the Stonehouse-Stroud-Nailsworth, L.M.S.R., branch line, where 36 trains a week from Stroud and 42 from Nailsworth gave direct connections to Bristol; that that caused great hardship to travellers from those valleys to Bristol and Birmingham, as alternative bus services were inadequate, ill-arranged, and involved long walks with luggage; and whether he would restore the first two and last two trains each day.

Mr. Alfred Barnes (Minister of Transport) stated in a written answer: I am advised that the alternative services are adequate, and I cannot agree to a restoration of passenger train services on this branch. I will, however, inquire into any particular difficulties on the bus services which Flight-Lieutenant Parkin cares to bring to my notice.

Flight-Lieutenant B. T. Parkin on June 30 also asked the Minister of Transport how many passengers had travelled on the last train to run on the L.M.S.R. Stonehouse-Stroud-Nailsworth branch line before the service was suspended; how many passengers had got off at Stonehouse from the main-line up train on June 7 and how many of those had proceeded by the 7.52 p.m. branch train to Stroud and Nailsworth; what has been the average number of passengers travelling on the first two trains from Nailsworth and the last two from Stonehouse over the most recent month; and how many passengers had travelled on the last excursion train.

Mr. Alfred Barnes, in a written answer, stated: The number of passenger who travelled by the 7.52 p.m. train from Stonehouse to Stroud and Nailsworth on the last day it ran is not known, but during a test week in November last the average peak loading was 14 passengers, the highest was 20, and the lowest was five. Subsequent observation suggests that loadings remained at about this average. This train connects at Stonehouse with the 6.25 p.m. Bristol to Worcester and the 6.25 p.m. Worcester to Bristol. On June 5, 6, and 7, six, eight, and 32 passengers, respectively, joined it from these main-line trains.

During the week ended November 2, 1946, the average peak loadings of the first two trains from Nailsworth, the 6.18 a.m. and the 7.25 a.m. *via* Stroud, were eight and 18, respectively. During the same week the average peak loadings of the last two evening trains from Stonehouse, the 6.30 p.m. and the 7.52 p.m., were 18 and 14, respectively. No excursion train has been run from the branch since before the war, but on September 12 last, through day excursion bookings from the branch line to Weston-super-Mare were given. No excursion bookings have been given since that day; loading figures are not available.

Flight-Lieutenant B. T. Parkin on June 30 also asked the Minister of Transport if he would give an estimate of the percentage of the fuel previously used for the whole service which would be consumed if the first two and last two daily passenger trains on the L.M.S.R. Stonehouse-Stroud-Nailsworth branch line were restored and driven by the engine normally kept in steam for the goods services.

Mr. Alfred Barnes stated in a written answer: The engine used for the goods services is not available to haul these trains. Their restoration would reduce the coal saving by 44 per cent.

Institute of Transport Luncheon

Mr. R. Stuart Pilcher, C.B.E., F.R.S.E., President of the Institute of Transport, on Friday last gave a luncheon at the Connaught Rooms, Great Queen Street, W.C.2, to the Press in recognition of the help and interest it had accorded to the Institute during his year of office. Mr. Stuart Pilcher was supported on this occasion by officers of the Institute, and members of the Council.

Among those present were:—

Messrs. V. M. Barrington-Ward, C.B.E., D.S.O. (Vice-President); C. T. Brunner; A. L. Castleman; Major F. J. Chapple, D.S.O., M.B.E.; Messrs. B. W. C. Cooke (*The Railway Gazette*); F. W. Crews (Secretary); Henry Cuthbert (*The Journal of Commerce*); G. Dickinson; K. R. Doggett (*The Dock & Harbour Authority*); H. T. Dutfield; H. J. Ferguson (*Passenger Transport Journal*); W. F. French; S. R. Geary, O.B.E. (Vice-President); A. G. Griffiths;

Sir Frederick Handley Page, C.B.E. (Past President); Messrs. C. F. Haywood (*Motor Transport*); E. K. Holmes (*The P.L.A. Monthly*); Thurston James (*The Aeroplane*); D. R. Lamb (*Modern Transport*); Colonel R. McCreary, O.B.E.; Messrs R. McLeod; G. Mackenzie Junner (*The Commercial Motor*); A. Mann (*Transport World*); H. M. Mason (*The Times Review of Industry*); W. Vane Morland.

Messrs. J. S. Nicholl, C.B.E. (Past President); R. Pearl (*Flight*); Ronald Pearse (*The Syren & Shipping Illustrated*); A. J. Pearson; R. Stuart Pilcher, C.B.E., F.R.S.E. (President); T. W. Royle, C.V.O., M.B.E. (Vice-President; President-Elect); Lt.-Colonel H. Rudgard, O.B.E.; Mr. Walter G. Sharp (*The World's Carriers*); Major R. O. Squarey, M.C.; Messrs. John P. Taylor (*Shipbuilding & Shipping Record*); W. G. Tilling (*The Locomotive*); F. W. Tipton; H. C. Tree; B. G. Turner; W. H. Wendon (*Fairplay*); J. S. Wills; W. Donaldson Wright.

Mr. Pilcher, in proposing the toast of the guests, said that the membership of the Institute of Transport was now 7,500, and it was hoped that the Institute would have new headquarters very soon, which would include such amenities as a library, a club room, and so forth. The financial requirements had been put at £100,000, but of this amount £60,000 already had been received, and it would not have been possible to have reached this figure without the assistance of the Press, and particularly the Technical Press. No industry could survive and make progress without the assistance of a strong and independent Technical Press. He went on to congratulate the Technical Press on the increasing use of colour in advertising. This was a relatively new development, but it would be a great aid to advertising, and of great assistance in bringing products to the notice of consumers, whether the products in question happened to be soap or an engine.

Mr. H. J. Ferguson, who responded for the Press, paid a tribute to Mr. Pilcher who, he said, always had been a little bit in advance of the times. He had been largely responsible for the demise of tramways.

He had many admirable qualities, among which had to be counted those of real photographic artistry. He was an artist, etcher, and scholar, and everything that a transport manager was not supposed to be. He might be likened to the late Frank Pick. Among the many matters in which he had played a prominent part in the field of transport were those of transport education and personnel.

ENDOWMENT FUND SUBSCRIPTIONS

Sir Frederick Handley Page said that last year the Institute had appealed for subscriptions for an endowment fund, and the response had been very gratifying. They had now received £60,000 of the £100,000 they wanted. The Institute was very grateful for the help that had been given it, and he hoped that it would not be long before it was able to make a public announcement of the situation and facilities of the new building.

Mr. T. W. Royle, the President-Elect, said he had been a member of the Institute for many years, and he realised the help which the members of the Press, and the Technical Press in particular, had given to the Institute of Transport. It was through the Technical Press that members of the Institute got new ideas and food for thought, not only in this country, but throughout the world. He looked forward to the continuance of the good feeling and friendly co-operation which had been a feature of the relationship between the Technical Press and the Institute for many years.

He anticipated his coming year of office with some trepidation, but he would do his best to serve the interests of the Institute and its members .

Notes and News

Morgan Crucible Co. Ltd.—A five-day week is now in operation in the offices of the Morgan Crucible Co. Ltd., which will be open on Mondays to Fridays from 8.30 a.m. to 5.30 p.m. and closed on Saturdays.

Rhodesia Railways Stock Conversion.—The recent offer to exchange Rhodesia Railways 4½ per cent. debenture stock into the 2½ per cent. stock of the Government of Southern Rhodesia expired on July 11.

Staff Required for an Argentine Railway.—A power signalling assistant, a signal draughtsman, and two mechanical signalling assistants are required for service in the Argentine Republic on an important railway system. See Official Notices on page 83.

Midland Bank Limited.—The directors of the Midland Bank Limited have announced an interim dividend for the half-year ended June 30 last at the rate of 8 per cent. actual, less income tax, which was paid on July 15. The same rate of dividend was declared a year ago.

Executive Engineer Required.—An executive engineer is required by the Iraqi State Railways for three years in the first instance. Candidates should be corporate members of the Institution of Civil Engineers or hold a civil engineering degree, and must have had railway engineering experience. See Official Notices on page 83.

Draughtsman & Instructor Required.—A draughtsman and instructor is required by the Nigerian Government Railway for a tour of 18 to 24 months, with prospect of permanency. Candidates, preferably single and aged 23 to 30, must have served an apprenticeship in the workshops of a British railway or locomotive builder and have had at least two years' subsequent experience in a locomotive drawing office of the design and detail of locomotive parts. See Official Notices on page 83.

Potteries Motor Traction Co. Ltd.—Mr. Raymond Birch, presiding at the annual general meeting of the Potteries Motor Traction Co. Ltd., said that since their last meeting the Transport Bill had been rammed through the House of Commons without any good reason or advantage having been advanced to support the proposals affecting the road industry. He commended to his hearers the words of John Stuart Mill, written in 1859, saying that if all great public utility undertakings became branches of the Government, " not all the freedom of the Press and popular constitution of the legislature would make this or any other country free otherwise than in name."

The Royal Train in South Africa.—In our November 29, 1946, issue we published an illustrated description of the air-conditioned all-steel coaches which were built by the Metropolitan-Cammell Carriage & Wagon Co. Ltd. for incorporation in the Royal Train in which the King and Queen and the Princesses made their recent tour of the Union of South Africa. Photographs of the train during the tour were reproduced in subsequent issues. By the courtesy of Mr. W. Marshall Clark, General Manager, South African Railways & Harbours, who visited London recently on his way to the International Railway Congress at Lucerne, we reproduce elsewhere in this issue some hitherto unpublished photographs of the interior of the Royal Train, and also of the pilot train. The large Royal lounge and the Royal dining saloon were converted from the stock of the South African Railway's " Blue Train." This work was carried out in the South African Railway's workshops at Pretoria.

Cost-of-Living Index.—At May 31 last the official cost-of-living index figure was 103 points above the level of July, 1914, showing no change as compared with May 1. At June 1, 1939, the cost-of-living index was 53 points above July, 1914.

Steelwork Designer Required.—An experienced steelwork designer, with knowledge of bridge and preferably also dock work, is required for design and specification work in the London office of a firm of consulting engineers. See Official Notices on page 83.

Scottish Machine Tool Corporation.—The net working profit of the Scottish Machine Tool Corporation for the year to March 31 last increased by £2,235 to £70,382. A final dividend of 5 per cent. has maintained the distribution at 8 per cent., as in the previous year.

Uruguayan Railway Negotiations.—An Anglo-Uruguayan sterling-balance agreement has been signed, which includes among its provisions a proposal for a British Government mission to go to Montevideo to negotiate on the purchase by Uruguay of the British-owned railways and utilities.

Wagon Repairs Limited.—The company's profit for the year ended March 31 last showed an increase from £61,753 to £97,130, but the dividend for the year on the ordinary capital of £529,003 has been reduced from 15 per cent. to 12 per cent. by the declaration of a final dividend of 7½ per cent. For nine years previous to 1945-46, a dividend of 10 per cent. had been paid. The company is allocating £7,787, as against £2,017, to reserve, and after providing for the preference and ordinary dividends the carry-forward of £51,955 compares with £34,553 brought in.

The Superheater Co. Ltd.—A statement by the Chairman, Sir Alexander McColl, circulated with the report for 1946 of the Superheater Co. Ltd. at the annual general meeting, said that the company's output during the year under review exceeded all previous years in tonnage. He emphasised that this had been achieved with less man-hours per ton. He had expressed the hope last year that they would increase their exports, and he was glad to say that this had been accomplished, the percentage in value being 184 per cent. of the best pre-war year. Their current order book exceeded last year considerably, and they were endeavouring to make good the loss of output occasioned in February.

Dorada Railway Co. Ltd.—In his statement accompanying the report of the Dorada Railway Co. Ltd. for the year ended December 31, 1946, the Chairman, Mr. J. A. Goudge, records an increase in gross receipts for the sixth successive year. This additional revenue has been nullified, however, by higher expenses due to the increasing cost of living in Colombia. The gross revenue of £369,603 compared with £359,374 in the preceding year, but working expenses rose from £224,721 to £244,492. There was a fall both in the number of passengers and tonnage of goods carried, but receipts from both sources were higher on account of increased rates put into force in April last year to offset higher wages. Earnings from passenger traffic were £54,085, as against £53,039, and goods receipts increased from £297,047 to £304,351.

Ransomes & Rapier Limited.—After deducting £35,833 for taxation, the net profit for 1946 was £47,666, as against £30,661 in £1945, when taxation took £11,765. This year a special allocation of £7,000 has been made to depreciation of buildings, and £15,000, as against £10,000 last year, is placed to general reserve. The ordinary dividend for the year is brought up to 7 per cent., tax free, by a final

British and Irish Railway Stocks and Shares

Stocks	Highest 1946	Lowest 1946	Prices July 15, 1947	Prices Rise Fall
G.W.R.				
Cons. Ord.	61¼	54½	56	—
5% Con. Pref. ...	126½	107	119½	+ 1
5% Red. Pref. (1950)	106½	102½	101½	—
5% Rt. Charge ...	140½	122½	131½	+ 1
5% Cons. Guar. ...	137½	118½	130½	+ 1
4% Deb.	129½	106	121	+ ½
4½% Deb.	129½	107	121	+ ½
4½% Deb.	130½	114	121½	—
5% Deb.	142½	125	133½	+ 1
2½% Deb.	95½	81½	89½	—
L.M.S.R.				
Ord.	30½	26½	27¾	—
4% Pref. (1923) ...	64	52½	58½	—
4% Pref.	86	75½	80	—
5% Red. Pref. (1955)	105½	97	98½	—
4% Guar.	108½	100	101	+ ½
4% Deb.	120	103	111½	+ ½
5% Red. Deb. (1952)	108½	105½	102½	—
L.N.E.R.				
5% Pref. Ord. ...	7	5	6⅜	—
Def. Ord.	3½	2½	3½	—
4% First Pref. ...	59½	50½	54½	—
4% Second Pref. ...	29½	25¾	27½	—
5% Red. Pref. (1955)	104	97	98½	+ 2
4% First Guar. ...	107	98	100	+ ½
4% Second Guar. ...	101	90	94	—
3% Deb.	104	87½	97	+ ½
4% Deb.	119½	102½	111½	+ ½
4½% Sinking Fund Red. Deb.	107½	101½	100½	—
SOUTHERN				
Pref. Ord.	79½	70	72½	—
Def. Ord.	24	19½	22½	—
5% Pref.	125½	107	118½	+ 1
5% Red. Pref. (1964)	115½	106½	108½	—
5% Guar. Pref. ...	137½	119	130½	+ 1
5% Red. Guar. Pref. (1957)	115½	107½	108½	—
4% Deb.	129½	105½	121	+ ½
5% Deb.	139½	125½	131½	+ 1
4% Red. Deb. (1962-67)	113½	104½	106½	—
4% Red. Deb. (1970-80)	115½	104½	107½	—
FORTH BRIDGE				
4% Deb.	109	103	100½	—
4% Guar.	105	102	97½	—
L.P.T.B.				
4½ " A "	133½	120½	124½	—
5% " A "	142½	130½	133½	+ 1
3% Guar. (1967-72)...	108	98½	104	—
5% " B "	128½	117½	119½	—
" C "	64½	56½	61½	—
MERSEY				
Ord.	34	30	33½	+ ½
3% Perp. Pref. ...	76	69	70½	—
4% Perp. Deb. ...	117½	103	109	—
3% Perp. Deb. ...	98	81	91½	—
IRELAND*				
BELFAST & C.D.				
Ord.	8½	6	7½	—
G. NORTHERN				
Ord.	41⅞	30½	28½	− 2½
Pref.	63¾	52	47½	—
Guar....	97½	78½	85	− 1
Deb.	107	97½	98½	—
IRISH TRANSPORT				
Common	19/2½	16/9	15/3	+ 1/9
3% Deb.	107	100	101¾	+ 1¼

* Latest available quotation

OFFICIAL NOTICES

Crown Agents for the Colonies

APPLICATIONS from qualified candidates are invited for the following post:—
EXECUTIVE ENGINEER required by the Iraqi State Railways for three years in the first instance. Salary between I.D. 100 and I.D. 110 a month, according to qualifications and experience, plus high cost-of-living allowance of I.D. 24 a month (I.D. 1 = £1). Free passages. Provident fund. Candidates should be Corporate Members of the Institution of Civil Engineers or hold a Civil Engineering Degree, and must have had railway engineering experience. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/N/12852 on both letter and envelope.

WANTED for design and specification work in London office of Consulting Civil Engineers, experienced Steelwork Designer with knowledge of bridge and preferably also dock work. Salary up to about £1,000 per annum according to qualifications. Write giving age and chronological record of education, training and experience, to Box "C.U.Y.," c/o 95, Bishopsgate, London, E.C.2.

BELLMAN HANGARS for workshops, storage, etc., supplied and erected under licence. 89 ft. 5 in. clear span, 18 ft. clear height, 175 ft. long. Door openings for full width at each end if required.—BELLMAN HANGARS LIMITED, Terminal House, Grosvenor Gardens, London, S.W.1. Sloane 5259.

RAILWAY STORE METHODS. By W. H. Jarvis. Great Western Railway. The necessity for training officers—Organisation of stores department—Stores accounts. Cloth. 7½ in. by 5 in. 116 pp. With diagrams. *4s. By post 4s. 3d.*

THE WORK OF THE RAILWAY CLEARING HOUSE, 1842-1942. An account of the development and extent of the activities of this famous British railway institution. Paper. 9½ in. by 6 in. 24 pp. Illustrations. *2s. 6d. By post 2s. 8d.*

FIRST PRINCIPLES OF RAILWAY SIGNALLING. By C. B. Byles. Most treatises on railway signalling are intended for the railway signal engineer, but this is an elementary treatise. Cloth. 7½ in. by 5 in. 146 pp. Illustrated. *4s. By post 4s. 3d.*

THE following Staff are required for service in the Argentine Republic on an important Railway System:—
POWER SIGNALLING ASSISTANT.—Qualified Signal Engineer and member of the Institution of Railway Signal Engineers, with at least 10 years' experience of power signalling installation and maintenance, gained either with a railway company or firm of signal contractors.
To possess sound practical knowledge of alternating current and direct current, track circuits, point and signal mechanisms and signal cabin equipment, preparation of schemes and estimates and circuit diagrams; if possible with shop and drawing office experience.
Commencing salary $1,050 Argentine paper pesos per month (equivalent approximately to £750 per annum), to be increased by $50.00 per month on qualifying in the Spanish language, subsequent promotion according to ability.
Tour of duty will be for 3 years, extendable to 5 years, under contract, with steamer passage paid both ways.
Age: Under 35 years.
DRAUGHTSMAN.—A fully qualified Signal Draughtsman with at least 6 years' experience, including the preparation of signal plans, locking sheets and dog charts, drawing of various classes of signalling equipment, and, if possible, with some knowledge of estimating.
Commencing salary $600 Argentine paper pesos per month (equivalent approximately to £435 per annum), to be increased by $50.00 per month on qualifying in the Spanish language, subsequent promotion according to ability.
Tour of duty will be for 3 years, extendable to 5 years, under contract, with steamer passage paid both ways.
Age: Under 30 years.
TWO MECHANICAL SIGNALLING ASSISTANTS.—Qualified Signal Engineers and members of the Institution of Railway Signal Engineers, with at least 10 years' experience of mechanical signalling installation and maintenance gained either with a railway company or firm of railway contractors.
To posses a sound practical knowledge of planning of schemes, preparation of plans and locking sheets, estimating, single and double line block working; to include, if possible, shop and drawing office experience.
Commencing salary $1,000.00 Argentine paper pesos per month (equivalent approximately to £725 per annum), to be increased by $50.00 per month on qualifying in the Spanish language, subsequent promotion according to ability.
Tour of duty will be for 3 years, extendable to 5 years, under contract, with steamer passage paid both ways.
Age: Under 35 years.

Write stating age, experience, etc., to Box C.726, c/o STREETS, 110, Old Broad, Street, E.C.2.

Crown Agents for the Colonies

APPLICATIONS from qualified candidates are invited for the following post:—
DRAUGHTSMAN AND INSTRUCTOR required by the Nigerian Government Railway for a tour of 18 to 24 months with prospect of permanency. Salary (including expatriation pay) £600, rising to £970 a year. Commencing salary according to age and war service. Outfit allowance £60. Free passages. Candidates, preferably single and aged 23 to 30, must have served an apprenticeship in the workshops of a British railway or locomotive builder, and have had at least two years' subsequent experience in a locomotive drawing office on the design and detail of locomotive parts. Apply at once by letter, stating age, whether married or single, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/N/15975 on both letter and envelope.

RAILWAY MAINTENANCE PROBLEMS. By H. A. Hull (late District Engineer, L.M.S.R.). Valuable information. With much sound advice upon the upkeep of permanent way. Cloth, 8½ in. by 5½ in. 82 pp. Diagrams. *5s. By post 5s. 3d.*

LONGMOOR MILITARY RAILWAY. Transportation Training Centre of the Corps of Royal Engineers. Reprint of an article published in *The Railway Gazette*, July 5, 1946. 22 pp. 9 in. by 6 in. Illustrated. In paper cover, *2s. By post 2s. 3d.*

A NATIONAL TRANSPORT PROGRAMME. With foreword by Sir James Milne. Outlines the approach of a long-term plan for transport covering State and private ownership; track costs, etc. Paper, 8½ in. by 5½ in. 27 pp. *1s. By post 1s. 2d.*

MECHANICAL APPLIANCES FOR HANDLING RAILWAY TRAFFIC. By G. Bulkeley. An explanation of the employment of mechanical apparatus for handling and carting general goods. Cloth. 7½ in. by 5 in. 132 pp. Illustrated. *5s. By post 5s. 3d.*

THE "PAGET" LOCOMOTIVE. Hitherto unpublished details of Sir Cecil Paget's heroic experiment. Eight single-acting cylinders with rotary valves. An application of the principles of the Willans central-valve engine to the steam locomotive. By James Clayton, M.B.E., M.I.Mech.E. Reprinted from *The Railway Gazette*, November 2, 1945. *Price 2s. Post free 2s. 3d.*

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distribution of 2 per cent. Last year the dividend on the ordinary shares was 6 per cent., tax free. The new ordinary issue has received a dividend for the half-year to December 31 last of 3½ per cent.

Models Presented to G.W.R. Directors.—Considerable interest has been shown by the public in the models presented by Mr. B. R. Hunt, of Johannesburg, to the Directors of the G.W.R., and now housed in a showcase on the Lawn at Paddington. The model of G.W.R. No. 6000, *King George V*, is 8 ft. 6 in. long, and, together with the "Cornish Riviera Express" composite brake coach, weighs about 1,200 lb. In contrast, there is a model of George Stephenson's *Locomotion No.* 1 and the first closed carriage, *Experiment*, which was mounted on fish-bellied rail. The display of miniature engine tools is in varying scales, and includes spanners, firing tools, etc.

Engineering Models at the Institution of Civil Engineers.—In conjunction with the first post-war conversazione of the Institution of Civil Engineers, which was held at Great George Street, Westminster, S.W.1, on July 10, there was arranged a display of exhibits by the National Physical Laboratory, the Building Research Station, and the Road Research Laboratory. Among the models, drawings, etc., covering various branches of engineering, was a model of a proposed new underground station at Charing Cross, which was described by Mr. V. A. M. Robertson in a paper to the conference on London Traffic and the London plan reported in our September 20, 1946, issue. Other exhibits included a shear box for testing sandy gravels, models illustrating elastic instability in plates, a demonstration water model for ventilation experiments, a model of an automatic sluice for rivers and canals, demonstrations of electro-osmosis in soils, and soil waterproofing.

Southern Railway Extension of Time Application.—The Southern Railway Company has made application to the Minister of Transport for an Order to extend by two years from October 1, 1948, the time now limited for the acquisition of certain lands. A copy of the draft application may be inspected at the office of the Solicitor, Southern Railway Company, Waterloo Station, S.E.1, from whom copies may be obtained, price 6d. each, and to whom any representations against the application must be submitted not later than July 31, 1947.

G.W.R. Extension of Time Application.—The Great Western Railway Company has made application to the Minister of Transport for an Order to extend by three years the time limited for the exercise of powers for the completion of railway (Denham and Ruislip) and (Dawlish and Exminster), and to extend by two years the time limited for the compulsory acquisition of lands required for the construction of those railways. A copy of the application may be inspected at, or purchased, price 6d. from, the office of the Solicitor to the Great Western Railway, Paddington Station, W.2, to whom any representations against the grant of the application must be sent, to arrive not later than July 30, 1947.

Muir Machine Tools: Change of Name.—The firm of Muir Machine Tools Limited, Britannia Works, Manchester, has taken the new title of David Brown Machine Tools Limited, a change considered necessary to avoid the possibility of confusion now that all the David Brown machine tool activities, including the worm-gear plant hitherto located at Huddersfield, are centralised.

Inland Waterways Congress.—On June 26 to 28 the Congrès International des Transports Fluviaux was held in Paris. Seventeen delegations attended from European countries and the U.S.A. The British delegation was led by Mr. C. T. Gardner, Deputy Director of Canals, Ministry of Transport, and comprised: Messrs. C. M. Marsh, Engineer & Manager, Weaver Navigation; H. B. Emley, General Manager, Aire & Calder Navigation; A. C. Lisle, General Manager, Sharpness Docks & Gloucester & Birmingham Navigation Company; Lt.-Colonel G. L. Lyon and Mr. W. Fraser, representing the National Association of Inland Waterway Carriers. The function of the congress was to lay stress on the commercial and industrial value of inland navigation. From the British delegation, Mr. William Fraser gave an address on "Problems of Inland Navigation in England."

Railway Stock Market

Activity in stock markets at the beginning of the week was prompted by the fact that dealings on Tuesday were the last to escape the increase in the stamp duty. Buyers concentrated mainly on industrial shares, which scored some substantial gains, although best levels were not held. Subsequently movements became somewhat irregular, markets tending to take their cue from British Funds, which receded, sentiment being affected by the fact that as much as 83 per cent. of the Southern Rhodesia 2½ per cent. loan was left with underwriters, and that dealings in the stock started at a discount. The European political news had an unsettling influence, but oil shares were good under the lead of Anglo-Iranian, which responded to the annual report.

Iron and steels have moved irregularly, although small gains predominated. Main attention in this section was centred on the Steel Company of Wales £15,000,000 debenture issue. Thomas & Baldwins and Baldwins Holdings showed small improvements, although Guest Keen eased, but Tube Investments moved in favour of holders. Vulcan Foundry changed hands up to 35s. 6d. and Beyer Peacock at 24s.

There was less activity in home rails after the recent rush of buying to escape the doubled stamp duty. Nevertheless the many arguments in favour of home rails remain valid, prices still being well below take-over levels. Having the protection of the latter, home rails can still be regarded as a useful hedge against the possibility of a fall in British Funds. The prevailing view is that Mr. Dalton is unlikely to abandon his cheaper money policy, and that unless there is a very heavy fall in gilt-edged stocks by January next, British Transport Stock is unlikely to carry a higher rate of interest than 2½ per cent.

There has not been a great deal of movement in home rail junior stocks, partly no doubt because of a disposition to await the remaining interim dividend decisions. On the other hand, prior charge stocks continued in demand, and buying was said to be mainly institutional. Southern preference and 4 per cent. debentures were favoured, and there was some demand reported for London Transport 5 per cent. "A" and "B" stocks. Great Western 5 per cent. preference and 4 per cent. debentures also moved fractionally higher.

The fact that home rails are not receiving increased attention despite their obvious attractions no doubt is due in a large measure to the disinclination of many investors to place money in securities of companies which are on the verge of nationalisation. Electricity supply shares are also below their take-over prices and leading iron and steel shares at levels showing large yields, although there is a widespread belief that prices have been reduced unduly by nationalisation fears and that fair compensation should justify them being well above current market quotations. While still below their take-over levels, home rail junior stocks may be regarded as carrying a measure of speculative interest, because it is difficult to say what the various final dividend payments in respect of 1947 will be. In some quarters it is thought that they may be in the nature of pleasant surprises, but it now seems that the matter is so complicated in view of the stipulations and provisions of the Transport Bill, that no estimate of the final dividends is possible at this stage.

With no official information as to British Transport stock, other than that it is to be a dated stock, and considerable uncertainty as to the likely final payments in respect of the current year (the last before the nationalisation "take-over"), it is perhaps hardly surprising that home rails do not attract widespread attention among investors generally. Nevertheless, although the public is not buying to any extent, institutional demand goes steadily on, based on calculations showing that home rails are a considerably cheaper purchase than gilt-edged stocks, bearing in mind all factors and the remaining dividends and interest payments this year.

General opinion in the City is that it would have been better if the Argentine railway circulars had been more detailed, as this might have prevented any prolonged explanations at the forthcoming meetings. On the other hand, it is realised that the proposals have been approved by an independent tribunal. Whereas junior stocks have been inclined to ease, debentures were in demand with gains of up to a point. In other directions Central Uruguay stocks were active on higher levels on strong reports that a British mission is to go to Uruguay to discuss the future of the British-owned railways. In sympathy, Leopoldina and Great Western of Brazil also improved, although there has been no similar development in respect of these Brazilian railways. French railway sterling bonds were again lower, reflecting a little selling owing to European political uncertainties. Elsewhere, United of Havana 1906 debentures rose to 21, but a fall in Canadian Pacifics was attributed to revived rumours of a possible devaluation of the Canadian dollar.

Traffic Table and Stock Prices of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffic for week: Total this year	Traffic for week: Inc. or dec. compared with 1945/46	No. of Week	Aggregate traffics to date: Totals 1946/7	Aggregate traffics to date: Totals 1945/6	Aggregate traffics to date: Increase or decrease	Shares or Stock	Prices: Highest 1946	Prices: Lowest 1946	Prices: July 15, 1947
				£	£		£	£	£				
South & Central America	Antofagasta	834	6.7.47	38,290	— 120	27	1,066,810	857,890	+ 208,920	Ord. Stk.	11	10¼	12
	Arg. N.E.	753	5.7.47	ps.434,100	+ps.23,900	1	ps.277,600*	ps.338,900‡	— ps.61,300	,,	17	5	11
	Bolivar	174	June, 1947	$109,985	+ $16,762	26	$674,863	$652,358	+ $22,505	6 p.c. Deb.	6½	5½	16½
	Brazil	—	—	—	—	—	—	—	—	Bonds	30	26	28½
	B.A. Pacific	2,771	5.7.47	ps.2,400,000	+ps.81,000	1	ps.1,400,000*	ps.1,988,000‡	— ps.588,000	Ord. Stk.	8½	5½	11½
	B.A.G.S.	5,080	5.7.47	ps.3,933,000	— ps.71,000	1	ps.2,609,000	ps.3,421,000	— ps.812,000	Ord. Stk.	16	10½	18
	B.A. Western	1,924	5.7.47	ps.1,369,000	+ps.98,000	1	ps.1,024,000	ps.1,083,000	— ps.59,000	,,	19	9½	23
	Cent. Argentine	3,700	5.7.47	ps.3,331,700	+ps.205,700	1	ps.2,285,200*	ps.2,834,000‡	— ps.548,800	,,	10½	7½	19
	Do.	—	—	—	—	—	—	—	—	Dfd.	6	4½	14
	Cent. Uruguay	970	5.7.47	36,868	— 3,676	1	26,334*	34,378‡	— 8,044	Ord. Stk.	8½	3½	25½
	Costa Rica	262	Apr., 1947	33,865	— 83	44	286,765	286,820	— 55	Stk.	15	12	11½
	Dorada	70	Apr., 1947	29,700	+ 400	17	119,200	115,275	+ 3,925	1 Mt. Deb.	102½	99½	108
	Entre Rios	808	5.7.47	ps.434,100	+ps.23,900	1	ps.277,600*	ps.338,900‡	— ps. 61,300	Ord. Stk.	9	5½	11
	G.W. of Brazil	1,030	5.7.47	27,900	+ 1,600	27	877,000	761,300	+ 115,700	Ord. Stk.	26/6	20/—	3½
	Inter. Ctl. Amer.	794	May, 1947	$1,150,433	+ $174,294	21	$5,900,779	$4,854,614	+ $1,046,165	—	—	—	—
	La Guaira	22¾	June, 1947	$111,621	+ $1,934	26	$684,382	$693,542	— $9,160	5 p.c. Deb.	70	58	84
	Leopoldina	1,918	5.7.47	76,863	+ 19,772	27	1,724,159	1,493,753	+ 230,406	Ord. Stk.	5	3½	14½
	Mexican	483	31.5.47	ps.1,464,000	+ps.459,100	22	ps.7,706,200	ps.13,441,600	+ ps.5,220,000	Ord. Stk.	1¾	¼	¼
	Midland Uruguay	319	May, 1947	17,386	— 5,440	48	185,778	204,277	— 18,499	—	—	—	—
	Nitrate	382	30.6.47	12,206	+ 1,693	26	114,300	110,632	+ 3,668	Ord. Sh.	83/9	71/3	83/9
	N.W. of Uruguay	113	May, 1947	5,882	— 975	48	60,692	61,364	— 672	—	—	—	—
	Paraguay Cent.	274	11.7.47	₲51,634	— ₲6,726	2	₲79,629	₲108,559	— ₲28,930	Pr.Li.Stk.	78½	60	50½
	Peru Corp.	1,059	June, 1947	148,249	+ 10,696	52	1,825,220	1,675,574	+ 149,646	Pref.	16½	8¾	10
	Salvador	100	Apr., 1947	c145,000	+ c6,300	44	c1,483,000	c1,393,700	+ c89,300	—	—	—	—
	San Paulo	153½	—	—	—	—	—	—	—	Ord. Stk.	119½	52½	168
	Taltal	156	June, 1947	6,205	+ 2,180	52	50,920	41,020	+ 9,900	Ord. Sh.	22/6	15/3	18/6
	United of Havana	1,201	5.7.47	68,352	+ 5,957	1	42,209*	47,028‡	— 4,819	Ord. Stk.	2	1¼	2½
	Uruguay Northern	73	May, 1947	2,745	+ 673	48	15,510	19,422	— 3,912	—	—	—	—
Canada	Canadian National	23,535	May, 1947	9,638,500	+1,942,500	21	43,712,250	38,638,500	+ 5,073,750	—	—	—	—
	Canadian Pacific	17,037	7.7.47	1,466,500	+ 149,750	27	39,172,750	36,179,750	+ 2,993,000	Ord. Stk.	25½	16¾	17½
Various	Barsi Light†	202	June, 1947	28,365	+ 9,435	13	80,235	73,395	+ 6,840	Ord. Stk.	123½	111	114½
	Beira	204	Apr., 1947	80,157	+ 4,547	29	624,106	508,964	+ 115,142	—	—	—	—
	Egyptian Delta	607	31.5.47	16,726	— 280	9	100,373	98,879	+ 1,494	Prf. Sh.	9½	5	6½
	Manila	—	—	—	—	—	—	—	—	B. Deb.	75	60	69
	Mid. of W. Australia	277	May, 1947	18,688	— 1,353	48	185,999	192,189	— 6,190	Inc. Deb.	85	70	75
	Nigeria	1,900	May, 1947	376,824	— 32,267	9	731,209	761,991	— 30,783	—	—	—	—
	Rhodesia	2,445	Apr., 1947	525,116	+ 1,409	29	3,817,224	3,517,909	+ 299,315	—	—	—	—
	South African	13,323	7.6.47	1,300,930	+ 159,287	10	11,979,475	10,552,483	+ 1,426,992	—	—	—	—
	Victoria	4,774	Mar., 1947	1,241,516	— 68,175	39	—	—	—	—	—	—	—

* Five days † Receipts are calculated @ 1s. 6d. to the rupee ‡ Six days